e Itliming Immal,

FORMING A COMPLETE RECORD OF THE PROCEEDINGS OF ALL PUBLIC COMPANIES. [The MINING JOURNAL is Registered at the General Post Office as a Newspaper, and for Transmission Abroad.]

No. 2149.-Vol. XLVI.

LONDON, SATURDAY, OCTOBER 28, 1876.

SUPPLEMENT. SPRICE PER ANNUAL BY POST, 21 48.

MR. JAMES H. CROFTS, STOCK AND SHARE BROKEK, No. 1, FINCH LANE, CORNHILL, LONDON, E.C. ESTABLISHED 1842.

BURNESS transacted in all descriptions of MINING Stocks and Shares (British ad Poreign), Consols, Banks, Bonds (Foreign and Colonial), Railways, Miscellanous, Insurance, Assurance, Telegraph, Shipping, Canal, Gas, Water, and

poors, insurance, proceedings of the North of Englands and Shares not having a general marketvalue.

Beanness negociated in Stocks and Shares, and in the principal Wagon and Enganness in Colliery and Inon Shares, and in the principal Wagon and Manufacturing Companies of the North of England and Scotland.

Business in all the principal Cotton Spinking Shares.

By J. H. Crofts, having now established Corresponding Agencies in all the Crofts Towns of the United Kingdom, is prepared to deal in the various Local Backs and Shares at close market prices.

Accounts opened for the Fortnightly Settlement.

Monthly and Daily Price Lists issued.

Bankers: City Bank, London; South Cornwall Bank, St. Austell.

A QUARIUM, HOTEL, AND MISCELLANEOUS SHARES.—
SPECIAL BUSINESS.—FOR SALE, 10 Brighton Aquarium, £15: 5 Royal
(Westminster), £2 5s.; 20 Royal Insurance, £16 1/4; 10 Queen ditto; 10 Scottish
ditto; 25 Britannis Fire, 12s. 6d.; 10 Lebong Tea; 5 Ceylon Company.
WANTED—15 Milford Docks Shares (fully paid); 50 Richards and Co.; 10 Pelmil; 10 Chillington Iron.
JAMES H. CROFTS, 1, FINCH LANE, LONDON.

COLLIERY SHARES.—SPECIAL BUSINESS in ALLTAMI, BILSON AND CRUMP, CHAPEL HOUSE, CAKEMORE, CARDIFF AND SWANSEA, NEWPORT ABERCARN, NEW SHARLSTON, THORP'S GAWBER, WEST MOSTYN (Ordinary and Preference), and Others. JAMES H. CROFTS, 1, FINCH LANE, LUNDON.

COTTON SPINNING SHARES.—These steady and remunerative

COTTON SPINNING SHARES.—These steady and remunerative Securities (comparatively little known on the London Market, but largely inseted in in the manufacturing districts) can be bought at the present time at manufacturing districts) can be bought at the present time at manufacturing shares (Oldham Mills) are amongst the safest and best of their class.—

Mame of Mill. Nom. amount **Last quarterly dividends, Closing **Mame of Mill.** Nom. amount **Last quarterly dividends, Closing **Control Spinning **Last quarterly dividends, Closing **Last quarterly divid

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FOREIGN BONDS - ARGENTINE - EGYPTIAN-RUSSIAN, SPANISH, TURKISH. SPECIAL BUSINESS, and latest JAMES H CROFTS, 1, FINCH LANE, LONDON.

RAILWAYS.—SPECIAL BUSINESS. Fortnightly accounts JAMES H. CROFTS, 1 FINCH LANE, LONDON.

LEADHILLS (LANARKSHIRE). — SPECIAL BUSINESS JAMES H. CROFTS, 1, FINCH LANE, LONDON.

MR. WILLIAM H. BUMPUS,
STOCK AND SHARE BROKER,
44, THREADNEEDLE STREET, LONDON, E.C.
[Established 1867.]

SPECIAL BUSINESS, at close prices, in the SHARES of all the principal HOME and FOREIGN MINES.

Mr. Bumpus directs particular attention to MINING INVESTMENTS,

and is in a position to give reliable information and advice respecting the same. **. The shares of several sound Dividend and Progressive Mines may now be chained at prices which are very much in favour of purchasers, and investments made at the present time in this direction will, in all probability, yield very satisfied regressits within a comparatively short period. A carefully selected List of thares, likely to have an early rise in market value, may be had on application.

FOR SALE, at prices annexed:—

23 Argentine,

20 Glyn, £2 11s. 6d.

25 Condes of Chili.

20 Glyn, £2 11s. 6d.

25 Condes of Chili.

26 Li X.L., 22s. 6d.

35 Javali, 12s. 3d.

30 Derwent, £45s.

25 Lanawsst, £25s.

25 Exchequer, £21s. 3d.

26 Exchequer, £21s. 3d.

27 Fornino, £1 3s. 6d.

28 Promino, £1 3s. 6d.

20 New Chiverton, £61s.

20 W. Tankerville, 36s 6d.

35 Fornino, £1 3s. 6d.

20 Pennerley, £5s. 6d.

36 Grat W. Van, 10s. 3d.

20 Pennerley, £5s. 6d.

36 Fornino, £1 3s. 6d.

37 Fornino, £1 3s. 6d.

38 Fornino, £1 3s. 6d.

39 Pennerley, £5s. 6d.

40 Fornino, £1 3s. 6d.

40 Grat W. Van, 10s. 3d.

SPECIAL NOTICE.

THE THREE GREAT PRIZES FOR THE COMING YEAR:—
ARGENTINE COMPANY (LIMITED).
CONDES COMPANY OF CHILI (LIMITED).
BLUE TENT HYDRAULIC GOLD MINES (LIMITED).

Capitalists and investors will do well to secure an interest in these valuable properties without delay, as the shares are certain to have a great rise. All the above are thoroughly sound and legitimate, not ephemeral schemes, but substantial uncertakings which have had large amounts of capital judiciously spent upon them, and are commencing to yield good returns; each being managed by a responsible and practical directorate, and efficient officers. Those, therefore, who invest in the shares at present prices may confidently expect to make a large profit on their cultay, and receive handsome dividends at an early date. The eminently satisfactory report from these properties prove them to be no speculations, and they un ously, and receive nanosome dividends as an early dividends, and they un to the properties prove them to be no speculations, and they un to the properties prove them to be no speculations, and they un to the proventies of the safe and profitable employment of capital. Full particulars of the mines, and every information concerning the several companies, may be obtained on application to Mr. Bumpus, who has special facilities for dealing in the shares.

WILLIAM HENRY BUMPUS, SWORN BROKER.

Business transacted in Stock Exchange Scourities and Miscellaneous shares
every description. Fortnightly accounts opened. References given and requir
when necessary. A Stock and Share List forwarded free on application.

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MESSRS. ENDEAN AND CO., STOCK AND SHARE DEALERS, 85, GRACECHURCH STREET, LONDON, E.C.

LLANRWST.

CAUTION—TO GUARD SHAREHOLDERS.
The shares are £3 to £3 5s., intrinsically worth £10. Some unprincipled share-dealers brokers are adopting the following modus operandi:—In the first instance, shares are offered to a few of the shareholders by circular or letter (which they have but got) under price, with a view to frighten shareholders out of their shares, and then, though a clerk, they offer the shares to a few of the other shareholders at the fall price, and they make a good profit by the transaction.
The mine is looking splendid throughout, bordering up in high percentage diviends, which will be lasting. It will doubtless be the great wize in the coming lapting.

ENI EAN AND CO.

85, Graccohurch street, London, E.C., 24th October, 1875.

DIVIDEND LEAD MINE INVESTMENTS .-VERY information respecting HOME and FOREIGN LEAD MINES and SHARES may be obtained of -

MESSRS, PETER WATSON AND CO., STOCK AND SHARE DEALERS.

54, OLD BROAD STREET, LONDON, E.C.

RITISH AND FOREIGN (MONTHLY) MINING NEWS. STOCK AND SHARE INVESTMENT NOTES-MINES, MINERALS, and METAL MARKETS-SHARE LIST.

No. 778, Vol. XV., for October, 1876. Annual subscription, 5s.; single copy, 6d. Will be ready on 2nd November to be forwarded to our subscribers.

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at close prices.
COLLIERY SHARES dealt in on best terms.
SHARES in NEGLECTED and DEPRESSED SECURITIES dealt in.
Every description of STOCKS and SHARES, either for INVESTMENT or
SPECULATION, BOUGHT and SOLD at net prices.

M INES-LLANRWST AND ABERDAUNANT SHARES.

SPECIAL BUSINESS AT LOWEST PRICES.

M INES - LEADHILL SHARES. SPECIAL BUSINESS and EXCLUSIVE INFORMATION.

COPPER MINES—CATHEDRAL MINE, in the rich Gwennap District. Full particulars, and SPECIAL BUSINESS.

PAILWAYS, FOREIGN STOCKS, &c. - HOW TO ACT.

INVESTMENTS — SAFE AND REMUNERATIVE. ALFRED E. COOKE, 78, OLD BROAD STREET, LONDON,

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25 Aberdannant, 13s. 6d.
10 Argentine Gold, £834.
10 Bampfylde.
50 Belstone, £2½.
50 Blestone, £2½.
50 Cakemore Colliery.
20 Cathedral, new shares,
20 Cathedral, old shares.
50 Cathedral, old shares.
50 Cathedral, old shares.
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51 Cathedral, shares.
52 Cathedral, shares.
53 Cathedral, shares.
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59 Cathedral, shares.
50 Cathedral, sh

Where QUOTATIONS are NOT INSERTED, the LOWEST PRICE of the day WILL BE TAKEN.
SOME of the ABOVE may be PURCHASED for SETTLEMENT END of DECEMBER on PAYMENT of 20 per cent. on deposit.

ALFRED E. COOKE, 76, OLD BROAD STREET, LONDON.

FOR FULL and EXCLUSIVE INFORMATION as to LEAD-HILLS MINE, LLANRWSR, ABERDAUNANT, or ANY OTHER MINING OF COLLIERY PROPERTIES—RAILWAYS, FOREIGN STOCKS—read the "Speedal Investment Circular" for November (ready on Thursday next. Price One Shilling; gratis to clients and correspondents. Edited and published by—

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(Established 1853.)

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BRITISH MINES.

ols, 42s.

Van Cons

Leadhills, £7 3s, 9d, East Van, £83%. Pennerley, 28s, 9d, Great Laxey, £19%, Pateley Bridge, £3 1s, Great Dyliffe, £43%. Tankerville, £103%. Roman Gravels, £13%,

Richmond, £9½. Eberhardt, £8½. Javall, 12s. öd. Malpaso, 15s. 91. San Pedro, 16s. 3d. Birdseye Creek, 16s. 6d. New Quebrada, £3 1s 6d

Van Consols, 42s. Glenroy, £3½. Llaurwst. Great West Van, 8s, 9d. Marke Valley, 28s, 9d. W. Craven Moor, £12½. West Chiverton, £18½. FOREIGN MINES. Exchequer, 41s. 6d.

Frontino, 35s. 9d. Fround, 128, 3d, Emma, 128, 3d, I. X. L., 21s, Malabar, 10s, 6d, South Aurora, 6s, 6d, Cedar Creek, 10s, Santa Barbara, 45s, 9d,

Bilson and Crump, £7%. Cardiff and Swansea. 48 9d. Chapel House, £35%.

JAMES STOCKER, SWORN BROKER.

Consols, Foreign Bonds, Railways, Bank, Telegraph, Gas, and all miscellaneous
Shares bought and sold, and fortnightly accounts opened for same. Shares sold
for forward delivery on receipt of cover. List of prices and every information for
warded on application. References given and required when necessary. ication. References given and required when necessaries: LONDON AND WESTMINSTER.

OSEPH J O H N PYNE, MINING BROKER STOCK AND SHARE DEALER, 6, BISHOPSGATE STREET LONDON, E.C.

Mr. PYNE having been connected with MINING ENTERPRISE for upwards of FOURTEEN YEARS, and having been a DIRECTOR of MINES in SHROPSHIRE, MONTGOMERYSHIRE, CARDIGANSHIRE, CAR-NARVONSHIRE, YORKSHIRE, and in VENEZUELA, has had great op-portunities of becoming acquainted with this particular branch of industry, and will always be desirous of giving every information in his power to in-

and will always be desired by the vector including british and vectors transacting business with him.

ALL DESCRIPTIONS OF SHARES are dealt in including BRITISH and FOREIGN STOCKS, and RAILWAY SECURITIES.

BANKERS—THE ALLIANCE BANK (LIMITED).

ESSRS. J. TAYLOR AND CO., 86, LONDON WALL, LONDON, E.C., MINING ENGINEERS AND INSPECTORS, STOCK AND SHAREDEALERS. Have business in the following at close rates:—Cathedral, Devon Great Consols, East Van, Glyn, Great Laxey, Great West Van, Grogwinion, Lianrhaiadr, Marke Valley, Minera, North Prince Patrick, North Laxey, Pennerley, Penstruthal, Roman Gravels, Rockhope, South Condurrow, Tankerville, Van, Van Consols, West Pateley Bridge, West Tankerville, Wye Valley.

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OULD SHARE BROKERS, 42, POULTRY, LONDON, E.C., Have the following SHARES for SALE in the undermentioned mines:—

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OFFE Established 1852.] [Bankers: London and Westminster, Lothbury, E.C.

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CAPITALISTS, SHAREHOLDERS, INVESTORS, TRUSTEES will find this Investment Circular a valuable, trustworthy, and Safe Guide.

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TO SHAREHOLDERS. WEST CHIVERTON AND WEST CRAVEN MOOR.—
WANTED TO PURCHASE, TWO HUNDRED OF THREE HUNDRED
SHARES, in small or large lots, in the above MINES, for cash.
Sellers will please state number and lowest price to—

GOULD SHARP & CO, SHAREBROKERS, 42, POULTRY, LONDON, E.C. Established 1852.] [Bankers: London and Westminster, Lothbury, London.

GROGWINION LEAD MINE (LIMITED).

GROGWINION LEAD MINE (LIMITED).

MESSRS. H. HALFORD AND CO., STOCK AND SHARE BROKERS, of EXCHANGE CHAMBERS, CHANGE ALLEY, LONDARD STREET, LONDON,

Strongly recommend the ABOVE MINE as one of the BEST and SAFEST MINING INVESTMENTS. The dividends are declared half-yearly—the one for the last half year was 12½ per cent.; the next one will probably be 20 per cent. The "reserves" are valued at £300,000. Every information upon application to the above.

The "reserves are valued as acceptance of the above.

Daily Closing Price Lists of Mines and all other Securities sent post free on application.

Messrs. H. H. and Co. are BUYERS of Shares in GROGWINION MINE, and also of Shares in WYE VALLEY LEAD MINE; and they will be GLAD TO HEAR from BROKERS or DEALERS who have ANY FOR SALE.

NOTICE. BROKERS OR DEALERS HAVING SHARES FOR SALE in either GROGWINION or WYE VALLEY MINES can FIND IMMEDIATE PURCHASERS, on application to-

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Some unusual opportunities are now offering for sale or purchase. Fortnightly accounts opened on the usual terms.
Wherever a difficulty arises as to the price of any security, whether quoted or not, application should be made as above, when full particulars will be forwarded by return of post.

Rookhope, 17s. 6d. Penstruthal, 11s. 6d. North Laxey, 14s. 6d. Parys Mountain, 13s 6d Ladywell, 32s. Clementina, 35s. Wheal Grenville, 14s. Wheal Grenville, 14s. West Tankerville, £1¾. W I L L I A M B. C O B B,
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Bankers: The Alliance Bank.
Business transacted in every description of British and Foreign Stocks, Mining

hares, &c.
Fortnightly accounts opened in rails, foreign stocks, and mining shares.
Vicrosta (London) Mining Company (Limited).—£1 shares specially remended, paying dividends at the rate of 18 per cent. per annum on present per second.

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LANRWST MINE.—It is unnecessary for Brokers and Dealers to advertise these shares for sale at ridiculous prices, except for the means

ENDEAN, FISHER, AND CO., of 3, LOMBARD COURT, E.C. BERDAUNANT LEAD MINE. -

The public would do well to be cautiou

BODIDRIS LEAD MINING COMPANY (LIMITED).
Capital \$230,000, in \$21\$ shares.

Messrs. ENDEAN, FiSHER, and CO., call particular attention to the prospectus of this company now issued; they are confident it is one of the best, and most substantial undertakings placed before the public.
The present prospects, and the discoveries made, are guarantees of its future prosperity. Those who wish to invest in one of the prizes of the day should communicate with us at once. Prospectus and map forwarded on application.
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C H I C A G O S I L V E R M I N E . —

Capital issued, £132,000; net profits for the past year, £27,035 4s. £d.; next
dividend due in November. See report of annual meeting in this number of the

Hung Journal.

SPECIAL BUSINESS done in Chicagos, by—
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STOCK.—HAYWARD TYLER AND CO., of LONDON, I now ready ENGINES, BOILERS, and "UNIVERSAL" STRAM PUT having made extensive alterations in their premises to enable them to ke etook.

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By FREDERICK WALTER SIMMS, C.E.

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Royal School of Mines.

PROF. SMYTH'S LECTURES ON MINING-No. LI.

PROF. SMYTH'S LECTURES ON MINING—No. LI.

[BY OUR SPECIAL REPORTER.]

When carbonic acid gas occurs in a mine various methods have been proposed and adopted for getting rid of it. For example, if it has accumulated in a sump a bundle of straw has been tied to the end of a rope, and moved up and down in the sump, so as by mechanical means to dilute the gas and gradually replace it with air. In other cases it has been proposed to use caustic lime to absorb the gas, and in a limited area this might serve a good purpose. But when the gas is distributed over a large area it can only be overcome by introducing a sufficiency of sir to dilute it and carry it off. In some of the volcanic districts of South France the gas was driven out of places otherwise inaccessible by injecting high pressure steam into those places. The formation of this gas by an explosion of firedamp is very commonly fatal to any of the men who may survive the explosion itself. With reference to the production of fire-damp, some interesting light has lately been thrown on the subject by Mr. Galloway, who has pointed out the very serious and important part which the coal dust plays: a slight explosion may raise such quantities of this as to choke the men, and Mr. Galloway believes that the dust also assists in forming a very explosive mixture in the mines. Fire-damp accompanies certain coals and certain districts in very much larger quantities than others, and in many cases it appears to be entirely absent. In the Forest of Dean coal field the lecturer did not know of a single accident arising from the presence of this gas, and no precautions were taken against it. In Wales and Yorkshire there is a great diversity in the seams, the same seam in some parts being quite free, and in others accompanied with very large quantities of fire-damp, and then any unfortunate want of care, want of discipline, or want of thought may lead to very serious accidents. In Sootland fire-damp is, as a rule, unknown. And in the continental coal fields the same variation ferent districts. In all the districts it will be observable that there are certain seams, and certain areas of seams, where the fire-damp appears to be disseminated and given off in such a way that proper appears to be disseminated and given off in such a way that proper attention to ventilation may fairly guard against any injurious effect; but then there are other seams and other areas where you are liable to sudden irruptions of the gas, and where, therefore, you cannot trust to the ventilation, but must be prepared to meet it by having the men always provided with covered lamps, and by suitable discipline which should direct the men what to do when they meet with it.

Remarkable cases have occurred, and are on record, where thes

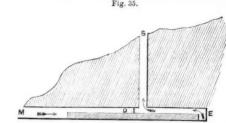
Remarkable cases have occurred, and are on record, where these irruptions have come out in great force, so as to fill the whole of the workings, and yet, owing to admirable discipline and precautions, they have passed away quite harmlessly. The precautions which have to be taken regarding a current of air in the case of all the lamps which are in use have already been mentioned: cases have been cited where Davy lamps have succumbed to an outrush of the gas. In one case an explosion could be traced to a lamp that contained only 529 apertures to the square inch, instead of 724, the number insisted on by Davy. Prof. Bishoff speaks of a case where oleflant gas was present mixed with fire damp, and states that such a mixture takes effect through a smaller mesh, but such a case has not been found in our collieries. The lamps should be looked to, to see that they are not in bad order, or of bad material, or in the case of a clanny not cracked, &c. It is a common notion among colliers

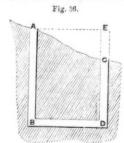
have been their where Davy impacts assessmented to an outrout the contrasted only 20 per graves of the angular exchanged only 20 per graves of consideration of the second only 20 per graves of consideration of the angular exchanged only 20 per graves of consideration of the angular exchanged only 20 per graves of consideration of the angular exchanged only 20 per graves of consideration of the angular exchanged only 20 per graves of consideration of the angular exchanged only 20 per graves of consideration of the angular exchanged only 20 per graves of consideration of the angular exchanged only 20 per graves of consideration of the angular exchanged only 20 per graves of consideration of the angular exchanged only 20 per graves of consideration of the angular exchanged only 20 per grave of consideration of the angular exchanged only 20 per graves of consideration of the angular exchanged only 20 per graves of consideration of the angular exchanged only 20 per graves of consi

rather more considerable. The general average result of Reich's observations was that the depth corresponding with an increase in temperature of 1° Fahr. was 76°26 ft. Mr. Henwood's experiments, and the lecturer's own experience, give the depth about 60 ft. The observations of Prof. J. Phillips at Monkwearmouth Colliery gave 59°36 ft. The very careful experiments made by Mr. Bryham during the sinking of the Rosebridge Collieries (the deepest in England), where holes were bored to a depth of 3 ft. into the rock at the sides, and thermometers placed in and tamped, and allowed to remain for a time, gave as a general result in the lower part of the workings 51 ft. for 1° Fahr. In the Grenelle bore-hole the observations, presided over by Arago and other careful observers, gave the depth at 60 ft. At the deep holes at Creuzot M. Malfredin found at one bore-hole 56 ft., and in another 43°1 ft.; the latter, however, he supposes to be vitiated by the heat due to the friction of the borer, and we must also in the bore-holes filled with water remember that any heat in the lower part will cause upward currents in the water, and rather more considerable. The general average result of Reich's must also in the bore-holes filled with water remember that any heat in the lower part will cause upward currents in the water, and tend to equalise the temperature of the various parts. In the deep Prussian bore hole at a depth of 4040 ft, the temperature is given as 38 5° Reaumur, which would give for 1° Fabr. a depth of 67 ft. Abnormal conditions will occasionally alter these rates considerably. At a depth below the surface of 30 to 50 ft. the temperature of the ground will be found to be invariable, and just equal to the mean annual temperature of the locality; hence, going down on a cold day it appears to be warm, while on a hot day the air underground appears to be cool.

It is found that a great number of mines are sufficiently ventilated by natural, or "spontaneous," ventilation. For example, in driving

It is found that a great number of mines are sufficiently ventilated by natural, or "spontaneous," ventilation. For example, in driving a level to a distance usually of 50 to 80 fms., though occasionally as far as 150 fms., a natural ventilation will be set up, the air coming into the level along the floor, running as far as the end, then rising, and returning along the roof. Similarly in sinking a shaft, especially if there be a little water trickling down the sides, it will be found that the air comes from the surface down the sides of the shaft, and returns up the centre, and this natural ventilation is maintained to a greater or less death. In both these cases the natural tained to a greater or less depth. In both these cases the natural ventilation is greatly assisted by the placing of a diaphragm, or brattice, horizontally in the case of the level, and vertically in the ventiation is greatly assisted by the placing of a diaphragm, or brattice, horizontally in the case of the shaft, so that the currents of air moving in opposite directions are prevented from rubbing against each other. The same may be observed if there are two levels side by side, with occasional cross-cuts communicating between the two, these being successively stopped up as a new one more advanced is formed; and the same is true of pits. On the small scale this principle is carried out in the use of air-pipes, or air boxes; usually square wooden pipes, with joints fitting into one another, and placed on timbers at the top of a level, or supported at one of the corners of the level, or when they are employed on a larger scale—say, 2 feet square—they will be placed on the floor; but in these latter cases it becomes a question whether a second level ought not to be preferred and introduced. In consequence of the objections to these pipes being of wood—their liability to decay, and to dry-rot, and the fungoid growths inside in moist places obstructing the current, and frequently imparting a disagreeable odour—other materials have been proposed and used, such as sinc, wrought-ifon, cast-iron, &c., but in most instances wood is still preferred. Papiermache have been proposed and used, such as zinc, wrought-ifon, cast-iron, &c., but in most instances wood is still preferred. Papiermache has been suggested for the purpose, but although it might do here and there it would be totally unsuitable for most of our British mines. A natural ventilation is generally set up where you have two openings, and these at different levels, where, for instance in hilly ground, you have an adit level from the side of the hill communication with a vertical shaft opening higher up the hill, during the greater part of the year at least a current of air will pass through. And this current may be made to ventilate the parts beyond the shaft opening (Fig. 35), by leading air-boxes from the level between the





being frequently simply constructed out of a barrel or square box. Many of these methods are exceedingly old, and were practised in mediaval times, as is seen by reference to Agricola's book.

BRISTOL MINING SCHOOL.

BRISTOL MINING SCHOOL.

An interesting lecture on the Bristol Coal Field, by Mr. Handel Cossham, inaugurated the session of the Bristol Mining School, and affords a good earnest of what may be expected in the course of been enabled to arrange for. The President on Monday evening was Mr. W. P. Baker, the Chairman of the board of governors, and there was a very large audience, including the Mayor, the Rev. Dr. Caldicott and T. C. Price, Alderman Edwards, and Messrs. Taylor Dr. Caldicott and T. C. Price, Alderman Edwards, and Messrs. Taylor Jose, Hare, Bennett, Fox, J. and E. Wethered, Widmark, Dyke, Joseph, Morgans, Leonard, and Coomber. The lecture was a decided success, and started the course capitally, whilst the circumstance that all the coalowners and managers in the neighbourhood were present is an evidence of the interest taken in the School. In the course of the lecture (to which full reference will be made on a future opportunity) Mr. Cossham briefly mentioned his paper read before the Geological section of the British Association at the Bristol meeting, in which he described the 40 or 50 seams constituting the mineral wealth of the district, the matrix containing and the strate dividing them, as well as the form of the field and some of the faults which had disordered it, and its distinguishing geological features; and then referred to the great Welsh, the Forest of Dean, and the Bristol coal fields, which, though now separated by miles of intervening strata, once formed a single basin, wheh by subsequent upheavals and depressions has, since the original deposit of the coal been severed as now found. This field, with about 1-17th of the coal of the country, embraced an area of 240 square miles, and over 150,000 acres, less than 50 square miles of which were exposed to view, and probably contained at least 6,000,000,000 tons of coal yet to work. The present output is little over 1,250,000 tons; and, since during the last 250 years they had raised but 120,000,000 tons, unless succeeding generations were m

than we, the world be 4000 or 5000 years older before the field would be exhausted.

The geological phenomena of the district were very minutely described by the lecturer, who expressed the hope that the student of the Bristol Mining School would help to develope the resources of the field, and to prevent waste, the School having already turnel out some distinguished men who had laboured in those directions. The thoroughly practical character of the lecture was much appreciated by the audience, and at its conclusion the cordial vote of thanks, proposed by the President, and seconded by Mr. Bennett, was unanimously carried. In proposing it, the President remarked that they must remember that Mr. Cossham was really the founder of the School more than 20 years ago, and it was through his exertions that the School was sustained for some years. The School came under the management of the governors of the Colston Trust last year, and soon after they were in office Mr. Thomas Comber's suggestion for the present course of lectures, in which he was supported by Mr. Cossham, was adopted, Mr. Comber displaying the most creditable anxiety for pushing scientific education, and laying before them a plan which enabled them to re-open the Mining School on its old footing, though for some years it had been closed. Not only had Mr. Coomber's plan been adopted, but students had resorted to the school in quite as large numbers as they expected. sorted to the school in quite as large numbers as they expected. The institution is now one of the most important mining schools in the country, and appears to have a long period of prosperity before it.

NATIONAL INSTITUTION OF MECHANICAL ENGINEERS.

The general quarterly meeting of members was held, on Wednesday, at the Memorial Hall, Manchester.—Mr. Thos. Hawksex presided; and there was a moderate attendance. The minutes of the last meeting having been read, the CHAIRMAN announced that at the anniversary meeting, to be held in Birmingham in January next, it would be proposed that the business of the Association should be removed to London.

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Jamson's suggestion as to the desirability of a larger spray being obtainable if necessary. He said the conditions of furnaces varied so much that it was necessary to see some case he had adopted slits in one of the pipes. With regard to Mr. Webb's one case he had adopted slits in one of the pipes. With regard to Mr. Webb's one case he had adopted slits in one of the pipes. With regard to Mr. Webb's one case he had adopted slits in one of the pipes. With regard to Mr. Webb's one case he had not perfectly easily a difficulties arising from these, but it would be perfectly east to adopt plant of any difficulties arising from these, but it would be perfectly east to adopt plant of any difficulties arising from these, but it would be perfectly east to adopt plant of any difficulties arising from these, but it would be perfectly east to adopt plant of any difficulties arising from these, but it would be perfectly east to adopt plant of any difficulties arising from these plants. e thought they might be very useful.

ROPE GEARING IN MILLS AND FACTORIES.

berd any dim be thought they might be very useful.

MOPE GEARING IN MILLS AND FACTORIES.

Mr. JAMES DURIE (Manchester) presented a paper on "Rope Gering for the Transmission of Large Power in Mills and Factories" in which he remarked that the best means of transmitting tyries, in which he remarked that the best means of transmitting tyries, in which he remarked that the best means of transmitting tyries, in which he remarked that the best means of transmitting tyries, in which he remarked that the best means of transmitting tyries, in which he remarked that the best means of transmitting the latter being and the success which makes the success which is made states of America of broad leather belts for the transmission of large the links of the prime mover to the shafting in factories; and the success which is made to the prime mover to the shafting in factories; and the success which is made to the prime mover to the shafting in factories; and the success which is made to the prime mover to the shafting in factories; and the success which is made to the prime mover to the shafting in factories; and the success which is a substitute for toothed gearing. Rope gearing had been applied to depend a substitute for toothed gearing. Rope gearing had been applied to be prime specially and the success of single spinning and wearing factory of Messrs. A and J. Nicoll, at Dundee, the interferedom from any risk of a breakdown; when a rope sair was the entire freedom from any risk of a breakdown; when a rope single success the success of single way—and ropes always gave symptoms of weakness sardier they broke—the weak rope could be removed and another put in its place state of the sair and another put in its place state of the sair and another put in its place at the sair of the sair and another put in the prime state of the sair and another put in the prime state of the sair and another put in the prime state of the sair and another put in the prime state of the sair and another put in the prime state of the sair and anothe

WHITWORTH SHELLS.

Sr JOSEPH WHITWORTH, F.R.S., exhibited to the members one of his flat-headed shells, and explained that it was constructed of fluid presed steel, weighing 750 lb. The maximum diameter was 11-92 in., passed sizel, weighing 750 lb. The maximum diameter was 11 '92 in, and the minimum diameter was rather less, allowing thus a little saze for the windage. The shell would contain a bursting charge size for the windage. The shell would contain a bursting charge size angle, and was the only form which would go straight through water or set must be winded and size only form which would go straight through water or set must be winded and been fired at a target, which are the straight of the size of

DEEP MINING-RECENT ACHIEVEMENTS OF ENGINEERING IN CONNECTION THEREWITH.

By WALTER ROWLEY, F.G.S., Mining Engineer, Leeds.

By Walter Rowley, F.G.S., Mining Engineer, Leeds.

Owing to the interest attached to the exhaustive, practical, and the prepare on the above subject, which was read at the recent meeting of the West Riding Geological and Polytechnic Association at Leeds, by Mr. W. Rowley, and of which we gave an abstract in last week's Journal, we now purpose to publish it in extense, as a valuable addition to make the preparent of the present of the deciment of the tenter of the deciment of the present of the deciment of the present of the deciment of the present of the

which a yet is unreleved by any indication of the revival of trade, and a ready, and a remain a remain pene extent at least, of the gool times that recently characterised the commerce of this country.

BERF MINING.—Before referring to the deep mining operations that have been compiled by the writer for the present occasion, it will give you an idea of the rapid growth of coal mining, if for a magnet your attention is called to the earliest records of coal getting in his country; commencing, I believe, by "Bassett workings" in brinam and Northumberland, described by Horsley as a coaling (edllery), stated to have been worked by the Romans, and some cakes, apposed to have been derived from the same source, were discovered in Edin considerable quantities, and similar in character. In the "Bolden Book," published in the reign of Henry IL. there are two references to coal at Wearmouth, and at Counden, as stated by Bishop Pudsey. A grant of had was made in 1189 to a collier for providing coals for a smith's workshop. The streed of the shipment of coal that we have proof of is one that the writer instead in the "Bolds of Whittey A boey," dated the year 1395, in which it is stated that whe coals were shipped from Sunderland, and that one Wm. Reed was paid 18.44, for four childrons, or 102 cwts. of the recognised measure of that district. The following table will show the area of the coal fields of the principal countries like world, together with the productions in tons at the periods referred to:—for Britain, 10,000 square 1700. 1800. 1816. 1873. miles for all 1873.

miles for all 1874. 1874. 1874. 1874. 1874. 1874. 1875. 1875. 1875. 1875. 1875. 1875. 1875. 1875. 1875. 1875. 1875. 1875. 1875. 1875. 1875. 1875. 1875. 1875. 1875. 1875. 1875. 1875. 1875. 1875. 1875. 1875. 1875. 1875. 1875. 1875. 1875. 1875. 1875. 1875. 1875. 1875. 1875. 1875. 1875. 1875. 1875. 1875. 1875. 1875. 1875. 1875. 1875. 1875. 1875. 1875. 1875. 1875. 1875. 1875. 1875. 1875. 1875. 1875. 1875. 1875. 1875. 1875. 1875. 1875. 1875. 1875. 1875. 1875. 18

miles of coal		***		***	7,618,760		10,080,300	***	27,020,115		127,016,747
U.S. of Americ	1,	192,	000	***	_		_		_		50,512,000
Germany, 1800			***	***	name.		-	0 + 0	-	***	45,335,741
France, 2086 .		***		***	-	***	Minne	919	_	490	17,500,000
Belgium, 900		***	***	***	-	***	*****		-	***	17,000,000
Austria, 1800			***	***	-	***	-	***	-	***	11,000,000
Russia, 30,000		***	***	110	-		-		-		1,200,000
Spain, 2500 .		***			-		-		-		570,000
Portugal					-	***	-		-		18,000
You Scotia, 18	9,0	00	***		-		-			***	1,051,557
Australia		***	**	***	-	***	-				
India, 2000 .	**	***	***	***	-	***	-	***		***	
Other countrie	5*	***	***	***	-			***			1,000,000

Total

Including Italy, China, Chili, Japan, South America, &c.

Including Italy, China, Chili, Japan, South America, &c.

These figures show the wonderful growth of coal mining, especially in this omity, which at present time amounts to nearly half the entire production due world, and one that has now become an undertaking usually involving the specific of the most interesting, the overcoming of great difficulties by the excess of that engineering skill that seems never to be found wanting in every past emergency or enterprise, and, lastly, by that pluck and confidence which stands every difficulty; and which it is honourable in the trade to have to teating its stands are seen to be supported by the second that engineering a standard of the present hour of difficulty, going on with greater vigour and entity is stall, in the present hour of difficulty, going on with greater vigour and entity is stall, in the compare the costly and scientific mode by which mineral properties to all who compare the costly and scientific mode by which mineral properties. It is a former of the second of the present converted to the second of the deepest mines in second up to the present time, arranged according to the greatest depth reached tash of the countries referred to:—

Camtry. Name of Mine. District. Mineral worked.

Country.	Name of Mine.	District.	Mineral worked.	Dept
1Anstria	Adalbert	Birkenberg	Silver and Lead	
		Gilly	Coal	94
3Sixony	_	Zwickaw	Coal	87
Sect Date	Samon	St. Andre	Bilver	84
6 V. Britain	Rosebridge	Wigan	Coal	81
6-Norway		Konsberg	Silver	62
1 -Pausairy	Amalia	Schmeritz	Gold and Silver	
9-Spain	Camphansen	Saarbruck	Coal	55
10Italy	La Luerti	Canada	Bilver	51
Il-Sweden	Monte Masio	Gavarrono	Lignite	
12. Pava bar 10	Bersho		Copper	42
11Baden	Whilhelm	Aerkrade	Coal	36
HBaden		Hagenback	Coal	3€
15Ravaria	Taylor	Palhal	Copper	33
16Russia	MIX	Stockholm	COM	-
From this at a	Turjinsk		Copper	20
of Prizibram in	ment you will see th	at the shaft of the	Copper. he argentiferous lead	mir

Finding and an untrie, has achieved the greatest victory up to the present time, saling and lead being now actually worked and drawn from a depth of 1091-1 ile. These mines were first-up and about the sixteenth century, but only compared actual working to any extent about the sixteenth century, but only compared actual working to any extent about the year 1779, and up to 1800 the shaft samp 209 yard deep. In 1805 they hot because depth of 781-2 yards. His lants seems from the earliest period to have year by year of its existence with the honour of testifying by its operations the practicability of deep mining, during the first 96 years of its working the annual increase of its depth was 18, and during the last 10 years it has annually increased on the average 88 ft. From the table I have given you will see that the deepest coal mines in the world the Vieters, Remus shafts, near Gilly, in Belgium, which are sunk to a depth 50 years in one perpendicular shaft. From a drift at this depth another shaft at been sank to a further depth of 212 yards, making a total depth of 21,162 yards.

The above shaft was continued 50 ft. lower, to a depth of 1179-2 yards, but as the coal sought for at this depth was not satisfactory in its character, the present mining operations are confined to the depth of 940 yards.

In Belgium there are at the present time about 112 shafts, 500 yards deep and upwards, whereas in England there are only 15 exceeding that depth. It is not intended to consider any under that depth—500 yards, as under that distance they are not uncommon, and do not come within the scope of the present enquiry.

The following is a table of the deepest mines in Great Britain at the present:—

Colliery.				County.				diner		Depth is
1Rosebridge	481	***	***	Lancashire		***	***	Coal		
2.—Dukinfield	***	***	***		***	***		**		686
Reached by	inc	line	a to	tal depth of		***		***		940
yards from								_		
3 Monkwearmo					***	***		Coal	******	
4.—Pendleton				Lancashire	***	***	***		*****	
5.—Sharlston				Yorkshire		***	***	**	*****	
6.—Shire Oaks				Nottinghams	hire	***	***	22	*****	510
7.—Annesley		***	***					**	*****	504
8 Ince Halt		***	***	Lancashire	***	***	***	9.0		600
9.—Douglas Bank		***			***	***	***	29	*****	525
10.—Lindsey		***			***	***	***	**	*****	505
11.—Worthington	***	***			***	***	***	**		600
12.—Seaham	***	***						**		508
13.—Ryhope	***				***	***	***			
s Monk wearmouth se	ems	toh	ave	been the pione	erof	deer	p m	ning	in thi	iscount

work it, especially where the same level is secured at both each of the distance traverse, as this has the effect of equaling the power to such an extent at the reperiments in the North of Engalan have demonstrated the great advantage of this year in point of economy and convenience. The second system is usually experiments in the North of Engalan have demonstrated the great advantage of this year in point of economy and convenience. The second system is usually great amount of wear and tear which could not be avoided over an uncerva pleed for the purpose of underground haulage, but seem destinct to be them as possible that at some future time air engines underground will then upperly not impossible that at some future time air engines underground will then upperly not impossible that at some future time air engines underground will then upperly not impossible that at some future time air engines underground will then upperly not impossible that at some future time air engines underground will then upperly and in the some place of the control of the control of the south of the sou The company of the co

art, as well as the departments of Experimental Physics, Applied Mechanics hemistry, and Engineering, all of which so materially contribute to assist, by eler teaching, those who follow after us and have the direction of mining opera ineering, all of which so materially o who follow after us and have the direc cessfully in the race that is before them

MINING AND STOCK EXCHANGE NEWS OF THE WEEK. Messrs. F. W. Mansell and Co. (Sworn Stock and Share Brokers), Pinner's Hall, Old Broad-street, write to us as follows:-

Messrs, F. W. Mansell and Co. (Sworn Stock and Share Brokers), Pinner's Hall, Old Broad-street, write to us as follows:—

American Mines.—Accompanied by reputable experts during three months' tour in the mining centres from Salt Lake City to San Francisco, we have acquired a mass of information not to be otherwise obtained. We are indebted to Mr. John Mackay, "the bonanza king" (to whom we were introduced by Mr. P. McKay, of the Bank of California), for an inspection of Consolidated Virginia, the most productive of the Comstock group, and the richest mine in the world. So extensive is the scale of operations, so unparalleled the gulf of wealth, and so almost automatic the manipulation of the ore from the time it leaves the huge excavations till reduced into gold and silver bars that one feels to be well repaid for a journey from the Old to the New World by a visit alone to this truly marvellous treasure-house, yielding as it does, a monthly dividend of \$1,200,000 (240,000). We propose to fully describe these mines in subsequent notices. In our examination of the prominent mines of Scandinavian Canyon, Silver Mountain (including Exchequer, I.X.L., Isabelle, &c.), we were aided by Mr. Lewis Chalmers and several other well-known authorities, some of whom had gained their experience in the Comstock Mines. At Eureka, Mr. Probert, managing director of the Richmond Consolidated Mines, received us most courteously. We accepted his invitation to inspect the mine, and had the advantage of his personal assistance throughout a protracted examination of the ore body at the different points of operation. A second day was employed in visiting the smelting works. At Grass Valley, California, we had the privilege of inspecting the underground workings of the Idaho, the representative and richest gold quartz mine in the Golden State. This mine in 1870 was offered in the London market for \$100,000 (200,000/.), is producing more and richer quartz than at any previous time, has larger reserves, apart from the fact that the vein has

SILVER MOUNTAIN MINES - EXCHEQUER, I. X. L., &c. - Silver SILVER MOUNTAIN MINES—EXCHEQUER, I. X. L., &C.—Silver Mountain seems destined at an early period to become a successful mining centre, second only to its neighbour, Mount Davidson, around which nestle the famous Comstock mines. Situated on the summit and eastern slope of Sierra Nevada, the country is truly Alpine in its external features and character. The Sierra, along its western boundary, rises to an elevation of nearly 10,000 ft., the Silver Mountain range running porth and south across its centre having

Alpine in its external features and character. The Sierra, along its western boundary, rises to an elevation of nearly 10,000 ft., the Silver Mountain range running north and south across its centre, having an altitude of nearly 12,000 ft. above sea level. Even the lowest valleys have an elevation of 5000 ft., many of them lying much higher. Almost the entire region is covered with heavy forests of pine and fir, from which immense quantities of lumber and firewood are made yearly. The Comstock mines and mills alone will, it is estimated, this year consume 260,000,000 cords, worth at \$12 per cord, \$3,120,000; some of this is obtained from the forests of Alpine County, and floated down the Carson river.

In view of its great altitude and the precipitous character of its mountains, covering the Sierra at one of its most broken and lofty points, this has been most aptly named—Alpine County. A rugged and scarcely less elevated spur strikes northerly from the main chain crossing its eastern boundary, thereby rendering nearly the entire county one continuous mass of mountains. It is bounded on the north-east by Nevada, on the south by Mono, on the west by Calaveras and Amador, and on the north by El Dorado; its average length measured north and south is 40 miles, and 38 miles in breadth. The portion lying east of the Sierra is cut in every direction by the two main forks of the Carson river and their numerous tributaries. Many of them are very wild and beautiful, being skirted by grass-slopes or bordered by plats of lawn-like meadow land. In most instances, however, they are destitute of these grassy surroundings, being closly hemmed in by dark forests or shadowed by impending slips of granite. Two of them, and from this circumstance and the cerulean hue imparted to their waters by their great depth, named the Twin Blue Lakes, constitute the head fountain of several large cerulean hue imparted to their waters by their great depth, named the Twin Blue Lakes, constitute the head fountain of several large streams that make their way westward into the Pacific, while in close proximity is the source of the Carson flowing eastward to be swallowed up in the great desert of Nevada. Some of these lakes are shallow, while others have a great depth, being fed by the melting space.

Alpine County's great interest is, and must always be, its vein Alpine County's great interest is, and must always be, its vein mining. Throughout well-defined and masterly gold and silver veins have been found, and some of them of great richness; they are usually large in size and cropping boldly, being often traceable for miles by their surface projections. In a small and imperfect way some considerable work has been done, but little exploratory labour of a thorough and systematic kind performed, although several mines have been developed to a point of limited production. Owing to the tremendous upheavals of this region, the lodes are strong, compact, and deeply fissured, although in many cases displaced and disturbed in their upper portions. The veins generally are of unusual size, with unsurpassed facilities for the economical extraction and reduction of their ores. Running in most cases are of unusual size, with unsurpassed facilities for the economical extraction and reduction of their ores. Running in most cases across the top or along the slopes of precipitous mountains the lodes can be opened out to a great depth by comparatively short adit levels. With such natural and physical advantages the ores can be made highly remunerative, even if of low grate, whereas development is proving just the opposite to be the case.

As with the now celebrated Comparate Vines the Silver Mountain

As with the now celebrated Comstock Mines, the Silver Mountain district of Alpine County partook largely in 1862-3 of the great excitement which spread throughout California, and thousands of miners crowded the mountains to work in newly-discovered mines, or to seek for others. In every town companies were formed to equip and send out prospectors. During this frenzy thousands of miles never before visited by white men were explored and examined, and many thousands for white men were explored and examined. and many thousand of metalliferous lodes found and claimed. Then it was that Virginia City upon the Comstock Lode grew up, and Silver Mountain City was created by the celebrated "bonanza" discovery in the I. X. L. Mine. Both these mining centres were soon the home of a large and excited population, every man owned thousands of feet of argentiferous lodes, and considered himself either possessed of a fortune or certain of soon acquiring one. The confidence in the almost boundless wealth of the territory west of the Rocky Mountains was universal, but difficulties arose in converting their ore into ready cash. Men who considered themselves millionaires had sometimes not enough money to pay for a dinner, and in their dress they looked like beggars. There was much difficulty in extracting the metal even from the richest ore; there were no mills to crush the rock, no skilful metallurgist to reduce the ore, and no confident opinion in regard to the best means of extraction. The simple process used for reducing auriferous quartz would not suffice. Gold exists in the metallic form, and so soon as the rock is pulverised can be obtained by washing or amalgamation, but ailver is in chemical combination with baser substances, and must be separated from them by chemical influences before the metal will submit to unite with quicksilver, by which it must usually be caught. While the metallurgists were working away at their pans usand of metalliferous lodes found and claimed. Then While the metallurgists were working away at their pans

the miners generally were afraid to erect mills lest buildings and machinery might be unsuited to the new modes of working. The mills that were built charged \$50 and \$60 per ton for crushing and amalgamating, though the same work was done at Grass Valley, a distance of only 100 miles, for less than \$5 per ton. The amalgamation was so conducted that only the free gold was saved—all the silver was lost. The value of the ore and the amount of silver lost were precisely understood, but there was no remedy. The silver excitement of 1860 continued to increase steadily for three years; the mining regions near the Comstock Lode were the main topic of conversation and basis of speculation. High prices were paid to strangers for mines at places of which the purchaser had never heard until a day or two before the purchase. Men's judgments were overwhelmed by the suddenly acquired wealth of some, and by the general anxiety of the many to buy any kind of silver shares. On every side were to be seen men who had made independent fortunes in stocks within a few months; shares advanced with great rapidity, in some cases as much as \$1000 per month. A foot of the Gould and Curry, worth \$500 in April, 1862, was sold for \$1000 in June, \$1550 in August, \$2500 in September, \$3200 in February, 1863; \$3700 in May, \$4400 in June, and \$5600 in July. Other claims advanced less rapidly but scarcely less startling. In the middle of 1863 Savage was worth \$3600 per foot (a share represented a linear foot lengthwise); Central, \$350; Cellow Jacket, 1150; Crown Point, \$750; Chollar, \$950; and Potosi, \$600. Virginian City rose to be the second town west of the Rocky Mountains, and well might the town be large and busy. It produced more silver within a year than any other one mining district of equal size ever did. Neither the famous Potosi nor Guanaxuato could equal it. The former town yielded \$10,000,000 annually for a time, but with that yield supported a population of 160,000—indeed, it may be doubted whether any town of 15,000 persons ever be

fact that many companies had been organised for the purpose of swindling the ignorant by selling worthless mines. Prices declined slowly until the middle of the next year, when a panieset in, sweeping away the "wild cat" or baseless speculations, which were never heard of more. Litigation, long and costly, supervened, arising mainly from the doubt whether it was one of a series of independent. mainly from the doubt whether the Comstock lode had at its side a number of branches, or whether it was one of a series of independent and parallel lodes within a distance of 200 yards. At the surface several seams of ore were perceptible, and the first claimants had taken the seam which was largest and lowest on the hill, and asserted that the seams above were mere branches. This, however, did not prevent others from claiming the upper seams, and thus arose the struggle that cost years of time and millions of money. Geology and development dissipated the many-lode theory, the fact being that the Comstock lode has a dip of 45° to the horizon, and while it was in process of formation large bodies of porphyry split off from the hanging-wall, fell down into the veinstone and were there suspended, leaving a seam of quartz above as well as one below. These pieces of hanging-wall are usually long, narrow, and deep, but not large enough in any direction to make two lodes out of one. The stocks of the Silver Mountain Mines were affected, and it might almost be said governed, by the influence of those of of one. The stocks of the Silver Mountain Mines were affected, and it might almost be said governed, by the influence of those of Virginia City. When the great Comstock developments were first made the papers of San Francisco teemed with articles congratulatory on the fact of those mines being owned by Californians, and showed how unfortunate it would have been had those great mines been owned by foreign capitalists, who would have drained the Pacific Coast of the millions taken out of those mines during the past few years to the benefit of San Francisco. The day is not far in the future when the papers of San Francisco will be bewailing the day when they allowed some of the mines of Alpine County to pass into the hands of non-residents. The best mines of Alpine have been, with but few exceptions, owned by poor men, who are anxious to see the mineral wealth of Silver Mountain developed. After years of patient waiting the "oldest inhabitant" is realising a change, and since the busy days of 1864-5 there has not been the activity in mining affairs that is now witnessed. The Carson Review says:—"A number of claims have changed hands, mostly in the interest of wealthy London capitalists, who are investing largely after a tho-"A number of claims have changed hands, mostly in the interest of wealthy London capitalists, who are investing largely after a thorough examination of our mineral resources by competent mining experts, who have been sent to this country on special missions and in different interests, their reports invariably agreeing as to the mineral wealth of the county. The entire series of ledges in the Scandinavian Canyon are now located, and to perfect titles and prevent blackmailing operations after the mines shall have become sufficiently developed to excite the cupidity of unprincipled men, United States patents to a number of claims have been obtained. We (says the same authority) are beginning to receive a flood of capital, so desirable in opening up a gold and silver mining district, and those whose confidence in our mineral wealth impelled them to remain here and battle with adverse fortune during a decade of years will yet be fully recompensed for their years of hopeful waiting. The Londoners have developed some of our oldest properties to an extent to warrant great investments in neighbouring cade of years will yet be fully recompensed for their years of hopeful waiting. The Londoners have developed some of our oldest properties to an extent to warrant great investments in neighbouring claims, and have done so without creating any excitement calculated to thwart them in their purchases. Now that they have concluded—in a great measure—their investments, they will soon be in a position to ship bullion, which will go to England. No mining district on the Pacific Coast offers greater inducements to investors. Within 26 hours comfortable travelling of the Bay City, our mountains are clothed with the stately pine, and we are blest with the purest water in the greatest abundance—advantages possessed by no mining district in the State of Nevada." According to the Alpine Chronicle—the leading county paper—a mining expert has just arrived to examine the mines for San Franciscan parties. "If (says this authority) he understands his business he cannot report otherwise than favourably on the Silver Mountain Mines," adding "that it is time the mining men of San Francisco were looking around to get a foothold in Alpine before Eastern and London capitalists secure our best mines, and they are doing so slowly but surely."

Foregrey, Roydes—The belief that the Argentine Confederation

FOREIGN BONDS .- The belief that the Argentine Confederation Foreign Bonds.—The belief that the Argentine Confederation must benefit indefinitely by the rise in tallow has taken firm hold of the minds of persons who do not trouble themselves to enquire whether the Republic has much tallow to sell, or whether any conceivable price to individual shippers will add anything to the resources of the Government, which is all that bondholders really need to concern themselves with. The recovery in Uruguayan is partly owing to the same circumstance, but there is, besides, an idea among many connected with the River Plate that this Republic is slowly improving in material wealth, and it is worthy of note that the Buenos Ayres journals speak very hopefully of the progress made under Colonel Latare's administration. As something has been paid to the internal creditors it is now hoped the Montehas been paid to the internal creditors it is now hoped the Monte nas over paid to the internal creators it is now hoped the above video dictator will bestow a trifle upon the patient holders of the loan contracted in England.

RAILWAYS .- The publication of rather better traffic returns by the southern lines had a stimulating effect in the early part of the week upon what was otherwise a very inactive though steady market. The fall in Great Western was attributable to Capt. Tyler's report, which was regarded as unfavourable.

CHICAGO SILVER MINING COMPANY .- Too frequently at the meet-CHICAGO SILVER MINING COMPANY.—Too frequently at the meetings of mining companies the shareholders have to consider, not whether they shall pay a larger or smaller amount of dividend, but what is the best course to be pursued to obtain any profit at all. The directors of the Chicago Mine, however, are in the happy position not only of being able to recommend a dividend at the rate of 8 per cent. per annum, but also to keep a very handsome sum in hand, either to form a reserve fund, or to be expended in adding to the property should suitable adiagent mines he placed on the marthe property should suitable adjacent mines be placed on the mar-ket at reasonable prices. A very small number of shareholders ad-vocated the distribution of a larger dividend, but the majority of the meeting followed the very sensible and prudent advice of the

directors, and accepted the recommended dividend at the rate of 8 per cent., and keeping a handsome balance in hand. The present eminently satisfactory position of the company is mainly owing to the able management at the mine of Mr. Godbe, a gentleman who enjoys a high local reputation, and has considerable influence in the territory where he has resided so long.

METALLURGICAL PROCESSES.

METALLURGICAL PROCESSES.

Amongst recent metallurgical inventions reference may be made to that of Mr. W. H. NEVILL, of Llanelly, for improvements in the and which consists in applying a current of air or steam, or a conwhilst they are in a melted state. This may be done by passing the current through the cinders while they are in a melted state in a tacle and then, by means of a pipe properly arranged, passing the current thorough the cinders while they are in a melted state in a tacle and then, by means of a pipe properly arranged, passing the current or currents of air, or steam, or gaseous matter through them until they become thickened. Whilst in this state the cinders may be turned out of the receptacle and at once divided into smaller masses, or may be allowed to set, and, when cooled, broken up to any required size, for the purpose, buthe prefers to burnt them in an ordinary buildog kills or other convenient furnace, when they will be found to have a beneficial effect on the quality and yield of the malleable iron, or they may be sent to the blast furnace either burnt or unburnt for reduction. I similar result, not so complete, may be obtained by the mechanical agitation of the melted cinders and subsequent treatment described.

For producing oxyde and chloride of zinc Mr. Harley Keynox, of Warrington, proposes to grind galvanisers' flux, lixivating the soluble salts from the oxide of zinc, and other impurities where colour in the oxide is no object, or he removes the coke it white oxide of zinc is required in any convenient manner. He then removes the ammoniacal salts in the usual way from the solubile inquors so obtained, and then precipitates the iron.

The nature of the invention of Mr. S. P. Tasker, of Philadelphia, for bending metal plates into tubular form consists in the first place in the combination of a revolving tapered mandrel, with three or more bending metal plates into tubular form consists in the f

THE SCOTCH MINING SHARE MARKET-WEEKLY REPORT AND LIST OF PRICES.

During the past week this market has continued quite inactive and, beyond some business in foreign copper concerns mines, and oil companies shares at advances, there has b mines, and oil companies shares at advances, there has been nothing remarkable, and a generally lower range of prices. In shares of iron and coal concerns, Ebbw Vale have declined 15s.; Bolckow, Vaughan, A. 10s.; Nant-y-Glo and Blaina (preference) and Shotts Iron (new), each 5s.; Benhar, 1s. 3d.; and Glasgow Port Washington, 6d. The meeting of the Scottish Australian Company will be held on the 3rd prox., and Angust coal sales are reported 16,199 tons. Not much doing in Newport Aberearn, although it is stated the black vein seum of steam coal they lately street is about 9 ft. thick, and the produce the best of the district. A petition will be heard on the 3rd proximo regarding the winding up of the Clee Hill Company. Bath Colliery A shares are very depressed from the company not succeeding in raising more capital. Andrew Knowles and Sons are at 72s. 6d. to 7fs. 6d. prepared for the company of the Clee Hill Company. Mersey, 7s. 6d., dis. New Shariston Collieries (pref.), 77s. 6d. to 82s. 6d. Sheptidge, 140s. to 50s. prem.; new, 113/ to 124/. South Wales Smelting, 58s. siler, West Cumberland, 10% dis. In shares of foreign copper concerns Cape have lead to in a 39/6, showing an advance of 20s. on last week's nominal price (8%). Tharsis are also taised 10s., and Yorke Peninsula Company's poperits. Tharsis 5 per cent. Debentures have been dealt in at 102. There is, however, a drop on the two Canadian companies—namely, 5s. on Huntington and 3s. on Perites.

In shares of home mines, Glasgow Caradon have been reduced 1s.; the list this

each) are—John Binns, Higher Gill Mill, near Orley; N. Bairstow, Higher Gill Mill; W. Ockroyd, Higher Gill Mill; Charles Edmondston, Bradford; James Edmondston, Colne; W. Midgeley, Bradford; and C. Bailey, Colne.

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876.

e made to is in the furnaces, or a com-ne cinders assing the state in a g the curhem until be turned es, or may ired size.

onceused lidog kiln re a benethey may action. A sechanical described. KENYON, ating the secies where e if white e it white the selument lidog. The selument lidogs, and in the selument lidogs, of iron is the of magnic when we have a time and the selument lidogs.

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ig revolved ied around hannel, and s it is gram between t joint or a ending ope-nts it is nee small end can be de-

Y REPORT ite inactive, s, home lead been nothing In shares of

In shares of a.; Bolckow,) and Shotts out Washing-held on the 3rd ing in Newport tey lately struck petition will be Hill Company. t succeeding in 77s. 6d. prem. ff and Swansea, prem., byers.

ath, 33 to t Laxey, 45s.; Les h Laxey,

17s. 6d. Almula to 10. Canadian m, 10½ premium, to 27s. 6d. Lawes owder, 36s. to 4½. Oakbank Oil den tys Mountain, 12s. 3d., sellers. Phes-done at 21l. 2s. 6d. West Cumberland, 27s over. Young's

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Llanwrst, 28s. 61, Llanwrst, 28s. 61, narsis done at 21% ng at these price.

cofty, 25 ouyers onto 2136. Uphall Oil done at 11, sellers over. Tineroft, 23%, closing about 2136. Uphall Oil done at 11, sellers over. Tineroft, 23%, closing about 10, 25s., 61., buyers. West Frances, 80s., buyers. Wheal by 25t. 50s. to 80s. Wheal Uny, 26s., buyers. Young's Paraffin done at 13%, 25t. 50s. to 80s. Wheal Uny, 26s., buyers. Young's Paraffin done at 13%, 25t. 50s. to 134. Sellers, 134 to 134. Sellers, 134 to 134. Sellers, 134 to 135 to 13

14 lah	to I	ed at	e t	his w	reek	's que	otations, &c., of mining and metal shares qu	oted on
. 6	rote	h Sto tal.	CK	Di	vide	ges:- nds. r cent		
er		Paid up.	P	per	ani	nnm.	COAL, IRON, STEEL.	Last price. 71/4
	400	10 8	***	9	6	6	Benhar Coal (Limited)	73%
	149		***	10		10	Cairntable Gas Coal (Limited)	9 80s.

			37		0 201010	# 2B
114			125	6	71/41 Bolekow, Vaughan, and Co. (Lim.) A.	531/4
149	45		10		10 Cairntable Gas Coal (Limited)	9
111	10	***	5	***		OB.
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***	29	110	7	***		09.
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	10		_	***		08.
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	10	200		***		78.
100	10	***	nil	098	nilMonkland Iron and Coal (Limited)58s	
•••			nil	***	7 Ditto Guaranteed Preference	57%
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	100	***				1934
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•••		***	125	5		58.
			125	5		. 6d.
		***	10	***		53
***	10		10		5 Ditto New, issued at 2½ prem.	10
***	-				COPPER, SULPHUR, TIN.	
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410		***		***	Ditto (£3 paid)	5s.
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	10	***	61	100	61	Rio Tinto (Limited) 5	
			-		_		
		***			_	Do., 5 p.ct. Mor. Deb. (Sp.Con. Bds.) 60	
	100	***	-	0.00			
	10	100	nil				
	10	***	25		225	4Tharsis Copper and Sulphur (Limited) 21	
		***	25		223	4 Ditto New 14	3/
		***			_	Yorke Peninsula Mining (Limited) 9s.	
	î	***				Ditto, 15 per cent. Guaranteed Pref., 21s.	30
		200					
			-			GOLD, SILVER.	
	1		5	***		Australian Mines Investment (Limited). 10	
	20	***	_	***		Emma Silver Mining (Limited) 16s.	
			_		-	Flagstaff Silver Mining (Limited) 22s.	6
				***		Last Chance Silver Mining (Limited) 10	
			_				
•	0	***	_	***	99		13/
						OIL.	
	7		5	111	5	Dalmeny Oil (Limited)	334
		200		***	7	14 . Oakback Oil (Limited) 50	
						4. Ditto 12s.	
		000					03
,	0)	5	0		v		31/2
						MISCELLANEOUS.	
	95	***	10		5	London and Glasgow Engineering & Iron	
۰	***	***		***			93
	341	0					
10	397	2	-	000	-	Feruvian Nitrate (Limited)	11/4

J. GRANT MACLEAN, Stock and Share Broker. Pat Office Buildings, Stirling, Oct. 26.

Begistration of New Companies.

The following joint-stock companies have been duly registered:—
CRICK AND MOORWOOD FREEHOLD COAL, IRONSTONE, FIRE-CLAY,
SUBRICK COMPANY (Limited).—Capital, 25,000/., in 10f. shares. To acquire
send property in the parish of Crick and South Wingfield, belonging to Messrs.
Sert B. Dison and John Prior, both of Darlington, according to an agreement
shelt B. Dison and John Prior, both of Darlington, according to an agreement
shelt B. Dison and John Prior, both of Darlington, according to an agreement
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Sert B. Dison and John Prior, both of Darlington, St.
Sert B. Dison and John Prior, B. Darlington, St.
Sert B. Dison and John Prior, B. Darlington, St.
Sew. Prior, Home Market, Darlington, contractor, 2: Joshua Forloch, Oakshelmes, Einther M. Anderson, Middlesborough, contractor, 1: Thos. Garbutt,
shelmes, Einther, J. H. Homas Hodgeon, Darlington, builder. The directors are
syst spointed, by the declaron, Middlesborough, contractor, 1: Thos. Garbutt,
shelmes, J. J. H. Homas Hodgeon, Darlington, builder. The directors are
syst spointed, by the declaron of the shell be she The following joint-stock companies have been duly registered:-

infilinopolitan Dairy MENS'SOCIETY is registered as a company "limited strance," with license from the Board of Trado to dispenso with the word likel" after its state. arantee, with license from the board of Annual Company (Limited).—This company (Limited).—This company (Limited).—This company (Limited).—This company (Limited).—This company (Limited) by guarantee," and it is incorporated.

and General Accident Company (Limited).—This com-coft the class known as "limited by guarantee," and it is incorporated ction with the Railway Accident and Mutual Assurance Company to install kinds of accident risks. The company possesses no share capital, wheriter agrees to contribute a nominal sum in case of "winding up." blors are—Mark Marsden, 43, Doughty-street; H. Osborn White, 58, i. J. H. King, 27, King-street, St. James's; W. A. Pope; and W. Burr,

POLITAN AND PROVINCIAL LAND, BUILDING, AND ADVANCE 1038 (Limited).—Capital 25,000°, in 5′ shares. To construct dwellings suring classes, &c. The subscribers (who take five shares each) arelef, The Lurrels, Brixton Hill; J. H. Semlor, 46, Regent Circus; F. A.
Frankler, W. H. Holman, 42, Great Marylelone street; Thomas Thompjow, S. W. C. R. Watts, 11, Shepherd's Bush; Arthur Worsland, 69,
50w, S. W. SERIOS, S.W.

HER GILL MILL COMPANY (Limited).—Capital 5000., in 10. shares.

Try os business as cotton spinners, &c. The subscribers (who take 10 shares

THE IRON INDUSTRIES OF LINCOLNSHIRE. By RICHARD MEADE, Assistant Keeper of Mining Records, Museum of Practical Geology.

The previous notice on the iron industries of this district gave

The previous notice on the iron industries of this district gave a general sketch of the order of occurrence of the liassic and solitic strata in the north-western district and other localities of Lincolnshire, following with statements showing the production of ironstone (hydrated oxide), its distribution, distinguishing the quantities carried out of the district by railway, and retained for reduction in the local ironworks. The next points to be considered will be the analyses of the ores, and of the fuel employed in the furnaces, and of the production of pig-iron.

ANALYSES OF THE IRONSTONE.—An important feature in some varieties of the Lincolnshire ironstone is the large percentage of lime it contains, admitting of its being smelted in the furnace in the raw state without previous calcination—or, in other words, containing its own flux. The ironstone has been carefully examined by competent authorities, and a great number of analyses are at hand, from which a selection has been made; the first is from the neighbourhood of Brigg, the sample being examined by Mr. Charles Tookey, of the Royal School of Mines, who has determined its composition as follows. For comparison is appended, side by side, analyses of the Northamptonshire ore from the neighbourhood of Wellingborough, by Mr. Edward Riley, and of Cleveland ore from the Belmont Mines, near Guisborough, in the North Riding of Yorkshire:—

Lincoln. Northampton. Cleveland.

Brigg. Wellingborough. Belmont.

					Li	ncoln.	No.	rthamp	ton.	Cleveland
Besquioxido of iron	***	***	***	***		58.10		50.31		-
Protoxide of iron		***	***	***	***	_	*****	Trace		39 00
Peroxide of iron		***	***	***	***	_	*****	_	******	3.50
Protoxide of mangar	nese	***	***	***	***	0.00		0.51		1.30
Alumina	***	***	***	***	***	3.00				7.46
Lime	***	***	***	***	***	4.15	******	11.76		7:44
Magnesia	***	***	***	***	***			0.62		3.82
Carbonic acid	***	***	***	***			******	7.98		23.06
Phosphoric acid	***	***	***	***	***					1.60
Silica	***	***	***	***	***		******	0.23		9.46
Bisulphide of iron	***		***		***		******	0.17		D 40
Water, hygroscopic		com	hine	d		16-46		11.00		3 66
Ignited insoluble res	idne		101110					9.33		9 00
aginted moduloic rea	·	****	***	***	***	10 10	******	0 00	******	_
Total	***		***	***	•••	99.78	*****	100.43		100.30
35 4 111 - In-						40.48				

-		No. 1.		No. 2.		No. 3.	No. 4.	No. 5.
Oxide of iron	*** ***	40.21		50.25		46.56	45.25	
Lime	****	22.38		7.95		14 21	13:37	
Magnesia	*** ***	Trace		8.43			4.52	
Carbonic acid	*** ***	26.75		6.25		15 75	10 50	11.52
Alumina	*** ***	4 94		3.14		6.12	3.27	4.25
Manganese	***	3.13		-		1.24	1.25	0.75
Bilica	*** ***	2.60		16.25	***	16.12	12.50	
Organic matter,	water.	_	***	7.74	***		9.34	-
Total	*** ***	100.00		100.00		100 00	100.00	100:00

V	ng constit	ue	nus:	_						
	O		Bmal	1 Yell	ow. Sm	all Bla	ck. Bott	om Bl	ack. Or	ange Stor
	Oxide of ire	n		58.00		62.71		43.59		75.28
	Alumina		***	4.21	**********	3.79		7.54		1.53
	Bilica		***	3.10	*********	5.97	***********	11.17	********	5.62
	Lime	**		0.91	***********	1.49		13.68	**********	1.01
	Magnesia	0.91		0.45	***********	0.53	***********	1.83	*********	0.30
	Manganese			3.41	***********	2.50	**********	0.70	**********	0.46
	Phosphorus									
	Bulphur	***	***	_	**********	Trace		Trace	********* **	-
	Water		***	27.82						14.93
	Total			99.22			*****************	99-87		100-15

TO MARKET MARKET AND VICE	T		Second band.	Fourth band.	Sixth band.	Eighth band.
Peroxide of iron	61	79	49.71	47.14	47.36	41-14
Protoxide of manganese	2	70		1.72	2.09	0.79
Silica	10	77	12.85	11.95	13.00	24.40
Alumina	6	38	3 85	4.08	4.85	6.62
Lime		79		11.45	10.60	8.18
Magnesia		10	2.51	2.97	3.02	2.10
Sulphur	0	08	0.06		0.07	0.04
Phosphoric acid	1	46	1.13	0.87	0.83	1.12
Combined water	14	43	12.47	12.40	11.90	10.70
Carbonic acid	Tra	ces	6.15	6.87	6.74	5.28
Total	100	.50	100.35	99.55	100.45	100.37
Metallic iron-dried sto	ne 43	25	34.10	33.00	33.15	28.80
Ditto, wet stor	e 38	94	30.47	29.44	27.08	25.04
Moisture	9	97	10.65	10.79	18.32	13.04

Moisture. 9-97 ... 10-95 ... 10-79 ... 18-32 ... 13-04

From the foregoing, and a large number of other analyses of
North Lincolnshire ironstone, rejecting all yielding less than 20 per
cent. of metallic iron, it is found that the average yield of the stone
varies from 28 to 32 per cent. of metallic iron, while as regards sulplur and phosphorus, it is observable that they exist in small proportions. It may be further remarked that some parts of the Frodingham ironstone seam are highly manganiferous, yielding from
11-40 to 32-82 per cent. of the peroxide, the same bands yielding
26-65 and 16-60 per cent. of metallic iron. There is yet another variety of ironstone, previously referred to, occurring in the neighboulhood of the city of Lincoln, and discovered a few years since;
this deposit is worked by the Mid-Lincoln Iron Company, and the
stone is in considerable request by the ironmasters of the Frodingstone is in considerable request by the ironmasters of the Froding-ham district, who employ it largely in their furnaces, to the extent of from 12 to 20 per cent. in admixture with the stone of North Lin-coln-hire. This Lincoln ironstone is constituted as follows:—

HILLO THE THE	COIL	44	CATTOR	OHO	413	COTT	COLO	uecu	CENS	100	
Peroxide of iron	***	910	***	***		0.00	***	***			(
Manganese			0.00	***			***	***	***	***	7
Alumina			***					000			**
Lime			***	***	***		***	***			0.00
Magnesia	400	000		000	000	0.00					***
Phosphoric acid			***		0.95	100		0.00		***	000
Bulphur	000	***	0.00	0.00		***		***		0.00	***
Carbonic acid and	wate	r			0.00	000	000	9.00	***	000	***
Insoluble matter	***	000	244	0.00		***	000	000			***

ANALYSES OF COAL EMPLOYED.—The fuel formerly employed in the Lincolnshire furnaces was coal obtained almost exclusively from the Barnsley district (previously coked), and bearing a cost of carriage of about 3s. per ton. During the past few years Durham coke in considerable quantities has been used, being imported into the district at a cost of carriage of from 7s. to 8s. per ton. The distance from Barnsley is some 35 miles, to Durham a much greater distance, and hence the increased cost. When, however, the projected loop line of the North-Eastern Railway is carried out between Stainforth, on the Manchester, Sheffield, and Lincolnshire Railway, and Arksey, a station north of Doncaster, increased facilities will be afforded to the Lincolnshire ironmasters for more abundant supplies of Durham coke, the distance being greatly shortened by the North-Eastern Railway running direct to Frodingham without passing through Doncaster. The Messrs. Dawes and the Messrs. Cliff draw large supplies of coke, the former from Barnsley and the latter from Silkstone, at which places the coal is coked on a large scale. The following analyses will show the composition of some of the varieties of Silkstone, Parkgate, and Barnsley coal:—

nkstor	10,	Pa	rkg	ate,				y c						
					8	iikston	е.		P	arkgate				Elsecar.
Carbon		***	***	***	***	84.12	***	***		80.07	***	***	***	80.02
Hydro	ger	1	***	***	***	6.31	***	***	***	4.93	***	***	**	4.93
Nitrog	en	***	***	***	***	1.60		***	***	2.15	***	***	***	1.24
Bulph	ur					3.03	***	***	***	1.11		***		1.08
Oxyge	en		***	***	***	3.74	***	***	***	9.95		***	***	8.99
Ash		***	***	***	***	1.20	***	***	***	1.80	***	***	***	3 73
	Tot	al	***	***	***	100 00		***	***	100.00	***	***	***	100.00
Yield				***	***	-		***	***	61.70	***	***	***	62:50

Specific gravity

Numerous other examples might be given; the above, however, will generally show the constituents of the coal of the Barnsley district.

The Durham coal yields a much higher percentage of coke than that of the coal of other districts, and is on this account extensively employed in many of our iron-producing centres; a few analyses will show the rich character of the cokes made therefrom:—

				He	dle		tley.		Boy	vden Cl	030.	Wi	lling	ton Newc	as
	Carbon	***	***			80.26	***	***	***	84.92	***		***	86:81	
	Hydroger	3	***	***	***	5 28	***		***	4.53	***	***	***	4.96	
	Nitrogen		***	***		1.16	***		***	.96	***		***	1.05	
	Sulphur	***				1.78	***		***	.65				.88	
		***	***	***	***	2.40	***	***	***	6.66	***	***	***	5.22	
	Ash		***	***	***	9.12	***	***	***	2.28	***	***	***	1.08	
	Tot	al	***	***	***	100.00	***	***	***	100.00	***	***	***	100.00	
	Yield of	coke				72.31		***		69.69	***	***		72.19	
17	41			1		-1 - 6 4	9.		- 4					3 . 1 1 12	

The other varieties of coal of the great northern coal field yielding rich cokes of which we have analyses at hand are constituted as

nows:—	And	Tanfield		9		ewcastl Hartley				Haswell Vallsend.
			l.						,	vansena.
Carbon	*** ***	85.58	***	***		81.81	***	***	***	83.47
Hydrogen	*** ***	5.31	***	***	***	5.50	***	***	***	6.68
Nitrogen		1.26	***	***	***	1.28	***	***		1.42
Sulphur	*** ***	1.32	***		***	1.69	***	***	***	0.08
Oxygen	*** ***	4.39	***		***	2.58		***	***	8.17
A h	*** ***	2 14	***		***	7.14	***	***		0.20
Total		100.00				100.00				100.00
Total	*** ***	100 00			***	100 00		***		100.00
Yield of coke	*** ***		***	***		€4.61	***	***	***	62.70
Specific gravity	*** ***	1.26	***	***		1.29		***		1.283

[To be continued in next week's Mining Jonrnal.]

The following reports were received too late for insertion in their proper places:

The following reports were received too late for insertion in their proper places: SOUTH TOLCARNE.—J. Vivian and Son, James Paull, Oct. 26: The 50 crosscut has been extended 12½ fms. north of the engine-lode, and Fraser's lode not yet intersected, the granite through which we are passing being of a favourable character for metals. In the 40, east of engine shaft, the engine lode is 4 ft. wide, yielding a little black copper ore in several parts. In the 40, west of engine-shaft cross-cut, Fraser's lode is 3 ft. wide, composed principally of quartz, carrying a little black copper ore. The two stopes in the back of the 40 are producing tin worth about 5½, per fathom.

LLANRHAIADR.—E. Pascee, Oct 26: The ground in the deep adit cross-cut is rather more favourable for progress; the joints, or faces, are impregnated with copper, spar, and a little lead. The end at bottom of winze, below No. 4, is being driven by six men. We took down the lode vesterday, it is of a very promising driven by six men. We took down the lode vesterday, it is of a very promising character, and produces a little lead, but not to value. The water has greatly increased since the driving commenced. The stope west of winze, worked on the branch that I mentioned in my last, is worth 7½, per fathom; we have to take this branch away before we can go on with the stope on the south part of the lode, which is worth 2½, per fathom. I have set a piece of ground to undercut over No. 3 level, or in the end of stope. The ore ground appears to extend east, the lode improving in value. We have a rib of ore in the roof of this stope, worth 14½, per fathom.

NORTH PRINCE PATRICK.—J. Woolcock, Oct. 24: In clearing out the level

No. 3 level, or in the end or stope. The ore gream appears to this stope, worth 14th, per fathom.

NORTH PRINCE PATRICK.—J. Woolcock, Oct. 24: In clearing out the level going east from the engine-shaft, and re-timbering the same for 35 yards, to the end, we discovered a north and south lode, which is large and well defined, being intermixed with all favourable properties for the production of a good course of ore. We commenced to drive north, and are now in 5 yards; here we had good stones of ore, but in consequence of the great influx of water caused by the recent heavy rains we abandoned this driving until some future time. We have resumed driving the level east towards the eastern or whim shaft, and I am pleased to state that the lode has greatly improved, being a mixture of clay, spar, and chert stone, and large lumps of solid ore some 16 lbs. weight; judging from its highly mineralised character I am strongly of opinion that we shall have a very productive lode when we get clear of the influence of the cross lode, and I shall then be able to put a value upon it, which cannot be done at present. By driving on this lode east we are also approaching the level driven from the whim shaft, and when these are communicated we shall have no further trouble with the water until we sink deeper.

COPPER ORES. Sampled Oct. 11, and sold at Swansea, Oct. 24.

Sampled Oct. 11, and sol	Mines, Tons. Produce. Price.	Cape Ore.	50	22	£19	13	0	ditto.	31	24	19	18	0	ditto.	29	29	4	19	18	0	ditto.	29	29	4	19	18	0	ditto.	29	29	4	19	17	0	ditto.	73	31	24	2	6	ditto.	73	31	24	2	6	ditto.	73	31	24	2	6	ditto.	71	24	18	19	6	ditto.	71	24	18	19	6	ditto.	71	24	19	3	6	ditto.	71	24	19	3	6	ditto.	71	24	19	2	6	ditto.	71	24	19	2	6	ditto.	71	24	19	2	6	ditto.	71	24	19	2	6	ditto.	71	24	3	19	7	0	Algerian Ore	84	73	6	5	2	6	ditto.	55	8	36	6	3	ditto.	29	17	12	15	0	TOTAL PR	Mines. Tons. Produce. Price. Algerian Ore 18	7½	£5 2
Prec.	1	43½	31	14																																																																																																																														
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TOTAL PRODUCE.

haven Ore.. 186 1.228 4 0 |

COMPANIES BY WHOM THE ORES WERE PURCHASED.

Names. Tons. Amount.
P. Grenfell and Sons 80 £ 1,563 15 0
Nevill, Druce, and Co. 114 1,231 13 0
Vivian and Sons. 418½ 2,748 10 6
Williams, Foster, and Co. 319½ 6,377 8 0
Williams, Foster, and Co. 122½ 1,673 9 3
Charles J. Lambert 11 125 6 0
Sweetland and Co. 171½ 3,359 7 3
Landore Smelting Company 82 1,603 13 0 1434 £19.864 2 0

Copper ores for sale Nov. 7.—Cape Ore 73, 72, 56, 55, 51, 70, 70, 69, 69, 69— Union Ore 85, 85, 81—Berehaven Ore 88, 88—Cronebane Ore 95—Copper Ore 10— Copper Regulus 10—Betts Cove Regulus 2.—Total, 1253 tons.

TOTALS AND AVERAGES.
21 cwts. Produce. Price. Per unit. Standard. 1434 18½ £13 17 0 15s, 3d. £98 1 0 Whole sale ... 1434

Copper ores for sale at Tabb's Hotel, Redruth, on Thursday uext—Mines and parcels—West Seton 330—West Tolgus 210—South Crofty 161—East Pool 120—8t. Aubyn United 70—Botallack 57—Carn Brea 45—Champion's Ore 38—Carn Camborne 28—New Rosewarne 25—Crever and Abraham 23—North Treskerby 17—Condurrow 17—Wheal Grenville 11—Wheal Agar 10—John s Ore 2,—Total, 1165 tons

C APTAIN ABSALOM FRANCIS MINING AGENT, ENGINEER, AND SURVEYOR GOGINAN, ABERYSTWITH,

Mining Correspondence.

BRITISH MINES.

BRITISH MINES.

ABERDAUNANT.—S. Toy, Oct. 25: I have dialled the ground at the deep adit level, and find we have to drive the cross-out 3 fms. to get under the new shaft, where we shall commence a rise towards it. In the east part of the sett (crowium) the rock still continues very hard for driving the cross-out towards the south lode; there is no change here worthy of remark since last week.

ASSHETON AND WEST ASSHETON,—John Craze, Joel Manley, Oct 26: West Assheton Mine: The 50, west of boundary shaft, is now extended about 6 fms.; the ground is more favourable for progress—no change in the lode since last report. The 60 west is extended about 24 fms.; we have taken down the lode, which still maintains its size and character,—Assheton Mine: The 50, cast of boundary shaft, is extended 4 fms.; the lode is 3 ft. wide, producing good stones of lead ore, and presents a promising appearance. The 60 east is extended about 23 fms.; the lode is 6 ft. wide, composed of spar, blende, and lead ores of a congenial character, water cozing very freely therefrom, which we deem a good feature. The various stopes and pitches are yielding their usual quantities of lead. We calculate to complete the pipes, &c., for conveying the water from main to boundary shaft, by Saturday next, when we shall commence forking the water below the 40 in order to make the stopes in back of 50 available for working. The parcel of lead sampled on the 18th, computed 30 tons, realised 131, 15s. per tom=412/1.0s. We are preparing another parcel of lead for *ampling at the usual time. BEDFORD UNITED.—R. Goldsworthy, William Phillips, Oct. 26: The lode in the 127 east is 3 ft wide, worth 30/c per fathorn; no ode has been taken down in the western end. The lode in the 116 east is shifted south by the cross-courseabout 2 ft., and is at present poor. In the same leved west the lode is worth 12/c, per fn.. The 103 east is much disordered, and at present poor. The same remarks will apply to the western end, but we hope shortly to have an improvement here. Th

fathom level stopes are still yielding good quantities of yellow and black ore, equally as productive as last week, and still have every indication of an early improvement.

— Oct. 25: The ground in the 80 fm. level cross cut has become more favourable for working; it is very promising indeed, yielding rich yellow ore. The drivage east from this cross cut was commenced on Tuesday morning, and good progress is being made. The strata are very congenial, and producing good quantities of splendid yellow ore and arsenical mundle. The stopes in the 40 have still further improved in the yellot of rich black and yellow ore: there is every indication now of our having at this point struct upon another large deposit of ore; and, as it is going away in whole ground, it is very important.

BLUE HILLS.—S. Bennetts, A. Gripe, Oct. 21; The top lode in the back of the 80, in the engine-shark, continues to open out satisfactorily; it varies in whith from a few inches to 1½ ft., and in value from 3/, to 12/, per fathom. The water has increased by means of the recent wet weather, which has necessitated the connecting of the second bolier to the pumping-engine.

CARGOLL—John Jennings, Oct. 25: The 24, east of Doctor's shaft, on the north lode, continues to produce veins of lead, but not enough to value, and rapid progress is being made towards Bowyer's shaft by eight men. At Bowyer's shaft good progress is being made towards Bowyer's shaft by eight men. At Bowyer's shaft good progress is being made in sinking, and it is sunk over 10 fms. below the 11, and we have about 2 fms. more to reach the 24. In the 11, east of shaft, we are driving a cross-cut from the south lode to the caunter part for ventilation; in this cross-cut we have passed through the elvan, which produced branches containing lead and copper ores, which will pay for dressing. The lode in the 11, east of shaft, we reconstitute to the worth 13/, per fathom. The stope in book of the 11 east is worth 3/, per fathom. All the machinery is working well.

CATHEDRAL—J. Miche

e communicated next week, when we statue in a position to see two or six tribute tichess. All work being pushed forward with vigour.

CLEMENTINA.—Wim. Bennetts, Oct. 24: The water is in fork to the 25; the neal have commenced exiting the plat this morning, which I hope to have comleted in a fortnight from this time, when we shall at once begin to sink the agine shaft. The blende lode is of much the same value as last reported, and is

CLEMENTINA.—Win. Bennetts, Oct. 24: The water is in fork to the 25; the men have commenced catting the plat this morning, which I hope to have completed in a orthight from this time, when we shall at one; begin to sink the engine-stuft. The blende lode is of much the same value as last reported, and is worth 15! ton per fathor.—W. Goldsworthy, Oct. 21: In the 20 east and 20 west of shall the men are diving "y the side of the lode, so that when the lode will be taken down it will be purer, or more free of rubbish. In the 30 west the lost few fathoms driving has been disarranged, and is now coming a ugal in the bottom of the strend of the s

athom. W. Williams, Oct. 25: We are sinking Tempest shaft as quickly easily can, but the ground is not very favour the for rapid progress. We amenced sinking the winze below cross cut A. We are down 2 ft., and so

this end, by two men, at 3d, per fathom; we shall communicate this winze with the end this month, and when completed stoping will be commenced in the back of this level. The 12 to drive north of the west cross cut, by two men, at 4d. 10s. per f norn; the lode has been disor level for a few feet, now producing a little lead. The stope in the back of the mid-level, between the 12 and 69, north of boundary rise, by four men, at 2d. 15s. per fathom, producing 10 cwts. of lead ore per fathom. The 91 to drive north of the boundary rise, by four men, at 4d. 16s. per fathom; the lole is producing good leaders of lead, and improving in character and productiveness. No. is stope, in back of this level, by four men, at 2d. 10s. per fathom; the lode is producing 8 cwts. of lead ore per fathom. No. 2 stope, in back of the level, by two men, at 2d. 15s. per fathom; the lode is producing 8 cwts. of lead ore per fathom. In the 45, north of Orchard air shaft, we have set to drive south, by four men, at 4d. 16s. per fathom; the lode producing 5 cwts. of lead ore per fathom. The stope in the back of the 45, north of No. 1 cross cut, on the castern branches, by four men, at 3d. per fathom; the lode producing 5 cwts. of lead ore per fathom. This lode is standing whole from the back of this level for a considerable distance, and a large quantity of ground is opened up for stoping. We shallset more stopes here as soon as we have completed the crection of the new improved juggers, which we hope to do in two months from this time. We have five tribute pitches, working by 12 men, at per ton for lead ore. Four pitches, by 10 men, at 6d. per ton; and one pitch in the back of the 100 north, on the east lode, by two men, at 5d. 10s. per ton.

— Oct. 25; Since sending you the report yesterday the lode in the 100 north has

and one pitch in the back of the two Borni, on the case accept of such as per ton.

— Oct. 26; Since sending you the report yesterday the lode in the 100 north has improved, some very good work for lead having been taken near the end. The second jigger will be put to work this week.

GAWION COPPER.—G. Rowe, G. Lowe, jun., Oct. 21: The lode in the winze sinking below the 117, east of shart, is 5 ft. wide, yielding arrenical mundlo and good stones of ore. The lode in the stopes in the back of the 117 is worth 19, per

athom. The lode in the 105 east has not been taken down during the past week, consequently no change, being worth 81, per fathom. The winze sinking below the \$6, and the rise gone up in the back of the 105 is communicated, and stoping commenced both east and west of winze, where the lode is worth 121, per fathom. The lode in the 82 east is 7 ft. wide, composed of spar and capel, intermixed with arsenical mundic and good stones of ore. The tribute pitches throughout the mine continue to yield the usual quantity of ore.

GLENKOY.—R. Rowe, Oct. 24: I have now returned from the mine, and in the short time we have had to operate in the 65, or bottom level, I am much confirmed in my views and pleased with the prospects. It will be remembered that in all my reports I have referred to the probability of lode standing off to the east of the short time we have had to a soon as the level was cleared and in working order we commenced a cross-cut east, about 30 fms. north of the shaft, and have intersected a lode about 1 ft. wide, rich for blende, which from its bearing has not been seen before any where in this level, but there is every reason to believe that there is a much whiler lode yet before us to intersect; this, from everything we can see is nucle while role yet before us to intersect the 40 lode. The 60 cross-cut, close by the shaft, is in about 14 ft., without change; the ground is easy for driving, and feel certain we shall soon intersect the 40 lode. The 50 cross-cut, close by the shaft, is in about 14 ft., without change; the ground is easy for driving, and feel certain we shall soon intersect the 40 lode. The 50 cross-cut, close by the shaft, is in about 14 ft., without change; the ground is easy for driving, and feel certain we shall soon intersect the 40 lode. The 50 cross-cut, close by the shaft, is in about 14 ft., without change; the ground is easy for driving, and feel certain we shall soon intersect the 40 lode. The 50 cross-cut, close by the shaft, is in about 14 ft., without change; the ground is eas

now yield rich stuff for blende and leaf. As soon as we have opened out a similar lode in the levels below, which I believe we shall do in the 60 almost directly, the mine will speedily satisfy every expectation that has been held out respecting it. As stated in my late reports, we are now busy dressing, and shall shortly make a good sale of ore.

GLYN—J. Roach, Oct. 23: The shaft sinking perpendicularly under the 28 is progressing satisfactorily. I expect in sinking 2 fms. mere we shall strike the bide, and no doubt meet with lead ore of importance. The rise from the back of the 28, against the winze sunk under the 15, will shortly be commonicated, when the properties of the 28 west was communicated with the winze this morning. We shall in a day of the 28 west was communicated with the winze this morning. We shall in a day of the 28 west was communicated with the winze this morning. We shall in a day distained to being profitably productive on the north wall.

GOREU.—W. Nicholls, Oct. 25: The sinking of the engine shaft below the 25 is progressing satisfactorily; it is now 9 fms. 2 ft., and the lode is of a highly promising character, and gradually improving as we get deeper, being large and porous, containing stiver-lead, and letting out more water.

GREAT DYLIFFE.—Edward Rogers, Oct. 25: Dyliffe Lode: At the 132 the lode is 3ft. wide, a mixture of copper, spar, and lead; worth about 18, per fathom. The water having increased, I intend in a day or two to dop the pumps down the underlie engine shaft, in order to asvethe expense of drawing the water by manual labour. The 120 is set to drive east, by four men, at 41 los. per fathom; and the province of the province o

or sale this month.

HINGSFON DOWN CONSOLS.—J. Richards, Oct. 26: At Bailey's enginehaft, sinking below the 160, 2 ft. of the lode only is being carried, which consists
f mundle, capel, quartz, and a little ore.—Bailey's Shaft: The lode in the 160
rest, and west of Rowe's winze, continues 4 ft write, worth 2 tons of ore, or 6.
erf.thom. The lode being stripped down below the 150 west, east of Nicholl's
rinze, is still 7 fe. wide, and worth 5 tons of ore, or 1% per fathom. In the stope
in the back of the 150 west the lode is 3 ft, wide, and worth 4 tons of ore, or
d. per fathom. In the 140 west the lode is 3 ft, wide, consisting of capel, quartz,
nundie, and ore, worth 1 ton of ore, or 3% per fathom. The pitches throughout
he m me continue to look well.

in the back of the 150 west the lode is 3 ft, wine, and worm a tour of one, or 1/4, per fathom. In the 140 west the lode is 3 ft, wine, consisting of capel, quartz, mundic, and ore, worth 1 ton of ore, or 3/, per fathom. The pitches throughout the m ne continue to look well.

MARKE VALLEY.—W. George, J. Stenlike, Oct. 20; Suisburg shaftmen continue former bargain. To drive the 145 cross cut south, by four men, at 26/, per fathom. To stope the back of the 124, on Marke's, by four men, at 3/. 15s. per fm.; yielding 3 tons of ore per fathom. To stope back of the 112, by four men, at 3/. 15s. per fm.; yielding 7 tons per fathom. To stope the back of the 20, by four men, at 3/. 15s. per fm.; yielding 7 tons per fathom. To stope the back of the 20, by four men, at 3/. 15s. per im.; yielding 7 tons per fathom. To stope the back of the 50, by six men, at 9/. per fathom, yielding 7 tons per fathom. To stope the bottom of the 50, by four men, at 3/. 5s. per fathom: yielding 5 tons per fathom. To stope the bottom of the 50, by four men at 3/. 15s. per fathom: yielding 5 tons per fathom. To drive the 50 west, by six men, at 10/. 10s. per fathom: jode 2 ft. wide, yielding 1/2 ton per fathom. Two stopes in back of this level, by four and two men, at 3/. 5s. per fathom is 10s. 10s. per fathom. To drive the 50 west, by four men, at 3/. 5s. per fathom at 10s. 10s. per fathom. To drive the 30 west, by four men, at 12s. per fathom; yielding 5 tons per fathom. To stope bottom of the 50 by six men, yielding 5 tons per fathom. To stope bottom of the 50 by six men, yielding 5 tons per fathom. To stope bottom of the 50 by six men, yielding 5 tons per fathom. To drive the 50 west, by four men, at 12s. per fathom; yielding 5 tons per fathom. To drive the 50 west, by four men, at 12s. per fathom; per fathom each, and yielding 4 tons of ore per fathom. To drive the 10 west, by four men, at 5/. 15s. per fathom; the lode is 2/4 ft. wide, producing some good ore, but not sufficient to value. Two stopes from the bottom of this level, by six a

copper ore, and judging from the distance that the love was heaved in the level below we shall have to drive south about 6 ft. further to reach the main part of the lode. The lode in the 6f, west of skip-shaft, is 5 ft. wide, and worth 5 tons of ore per fathom. The 78, we to f shaft, is improved a little, end worth 4 tons of ore per fathors; we have cut more water in the end, but the ground continees quite as favourable for driving. The lode in the stop in back of this level is 6 ft. wide, and worth 4 tons of ore per fathom. The 86, west of the shaft, is now in good working order; we are driving on the north part of the lode, which yields 2 tons of ore per fathom. The south part of the lode is very wet, and spare for cutting through, but we expect that in a few days it will drain a little, when we intend to take it down to see the value of the lode for its full size. There is no change in the ground in Gindry's shaft; the men are still making good progres as insiking, and in another fortnight we shall be deep enough to commence driving a 78 fm. level

ground in Gundry's shaft; the means still making good progres is nochange in the ground in Gundry's shaft; the means still making good progres is sinking, and in another fortnight we shall be deep enough to commence driving a 75 fm. level east of this shaft, to communicate with the 78, west of the skip shaft.

MONYDD GORDDU.—Richard Rowse, Oct. 25: The engine shaft is below the 15 fm. level to fms. 4ft; unfortunately a shot from a hole on Tuesday broke the windbore, a bottom piece of the sinking lift, which has hindered sinking for a day or two. The new piece will be ready and delivered on the mine to mor ow morning I hope, when it will forthwith be placed and sinking resumed. The stopes ontinue their average yield—14ft, per lathom—and their produce, when passed through the dressing machinery, turns out fair quantities of ores, lead, and blende. We are progressing favour bly towards another sale.

NEW OHIVERTON.—J. Trewartha, Oct. 26: The engine-shaft is down 10 fms. below the 50: the lode is producing good lead work. There is nothing new to notice in any other part of the mine since last report.

NEW CONSOLS.—Richard Pryor and Son, J. Jenkin, H. Vial, Oct. 25: We have nothing new to report in our underground operations since last week. All our stopes and tutwork bargains continue to look quite as well as when last reported on. At surface all our machinery is working well.

NEW HENDRA.—W. Rowe, Oct. 21: The deep adit end set to drive by six men, at 76, per fathom; the lorde has Attely teen divided into two parts, and we have been driving on the north part, which is now small and unproductive. The end will be continued on the south branch, where we hope to find the lode better.

NEW ST AGNES —W. Vivian, Oct. 26: We have commenced to sink the shaft on the course of the lode below the 84; the lode is 4 ft. wide, producing some good tinstone. In the 84, driving east, the lode is 2 ft. wide, producing some good stopen core and stones of tin. In the 84, driving east, the lode is 3 ft. wide, very kindly in appearance,

are opening up tribute ground. From the present prospects of the mine I hope to make some good returns of copper and thin in the early part of 1871.

It make some good returns of copper and thin in the early part of 1871.

NEW TYLLWYD.—J. Pauli, Oct. 26: The block in the 39 fracevel, west of cross cut, is 4 ft. wide, containing spar, clay slate, carbonate of immoning on the containing spar, clay slate, carbonate of immoning the property of the containing spar, clay slate, carbonate of immoning spar, clay slate, and we will see on the containing spar, clay slate, carbonate of immoning spar, clay slate, carbonate of containing spar, clay slate, clay slat

Kathom. On the north hode the 30 east is worth 101, per fathom; this is on a north part of the lode; the south part of it is 6 ft. apart, and also timp. Allogether a most promising lode.

PENNERLEY.—W. T. Harris, J. Delbridge, Oct. 24: Engine-Shaft: The 130 east is more encouraging than for some time past; the lode is now forming on the hanging side, similar in every respect to what we had in the level above. We have now from 6 to 9 tt. to drive to be into the bunch of ore; the ground is also rather easier for progress. The lode in the 130 west is 4½ ft. wide, composel of carbonate of line, and slightly improvel for lead; this is a very promising lode, and we are daily looking for a great improvement. The stope in back of this level is producing 1 ton of lead ore per fathom. The lode in the earlier level is now ½ ft. wide, containing carbonate of lime, and all little leat ore; waterissues from the forbreast, and the lode increases in size as going forward. The lode in the size, sinking below the 70, is worth 3 tons lead ore per fathom. The lode in the winze, sinking below the 70, is worth 3 tons lead or per fathom. We have about 6 ft. further to sink to communicate with the level below; this done, a profitable section of grount with he lid open for sloging. The rise in back of the 69 is up 6 fms.; the ground is favourable for progress, and we hope shortly to loose the water from the north lode and sinze in bottom of the 40.—Fotter's Pit. The 90 west is now thoroughly ventilated, the wince hiring been estimation for the sinking of the shaft to the next level. The lode in the sinking of the shaft to the next level. The lode in the end is now worth 1½ ton lead per fathom, and promising for an improvement. At the 7s we prose putting out a cross-cut to prove the run of ore in the 90; to all appearance its standing in the hanging side. The lode in the western winge is worth 25 tons lead ore per fm. No time will be lost in communicating the 90 with this winz. The sound in the hanging side. The lode in the western winz

to drive, and shall then cross-cut to Wilson's lode. The 28 cast, on Wilson's lode. Is 1 ft. wide, worth 3/2 ton lead ore per fathom. Thints Department: We have 16 pitches at work yielding lead in fair quantities, especially Wilson's lode. The men are carning good wages.

PLYNLIMMON.—John Garland, Oct. 26: In the 24, east of new winze, I am pleased to say there is a favourable change in the lode, which is composed thills, mundit, blende, and lead ores, producing of the latter 3/2 tone fathom, with a kindly appearance for further improvement. The stope over this level, east of new winze, averages a produce of 15 cwts of lead ore per fathom, with a kindly appearance for further improvement. The stope over same, east of last named, has improved during the pist few days, and how produces inly 1/2 ton of lead ore per fathom. Drawing and diessing are being pushed on as fast as possible, and fair progress is being made towards another sampling. The machinery throughout, including pitwork, is in fair working order, with a good supply of surface water.

PRINCE OF WALES.—J. Andrews, J. Pryor, Oct. 24: The lode in the 35 west is 4 ft. wide, composed of quartz, capel, mundic, and a little copper or. The lode in the winze sinking below the 55 has failen off in value during the past wex, and is now 4 ft. wide, worth 10/4, per fathom. The lode in the 48 west has made inproved in appearance, and is now 20 in. wide, composed of quartz, capel, mundic, and an intermixed with yellow and black copper ore—a very promising lote. RELISTIAN CONSOIS.—J. Curtis, Oct. 25: In the 24, east of Dukes shift, the lode, sofar as seen, is 7½ ft. wide—no north wall, worth for the 3. per fathom diving by stx men, at 54. 15s, per fathom. In the stope in back of deep addiced to back of deep addiced in this direction.

RHELDOLL—John Ridge, Oct. 21: The stope in back of deep addiced is set by six men, at 40s, per fathom; the lode will yield 25 cwts, of bleede per fathom. The rise in back of deep addir, on Foxpath lede, by two men, at 71. 10s, per fatho

with me, and give a

t desired.

The lote is 1 ft. wife. to the best course to take to reach the object desired.

SOUTH WHEAL FRANCES,—A. T. James, Oct. 24: Pascoc's Shaft: The 28 is being driven west of shaft, by six men, at 64, per fathom. The lode is In sile, producing a little tin, and the ground is favourable for progress, and congeniate the production of tin. The 295 cross-cut is driven north of shaft II Rt. the last 6R. in the capelo of the flat lode; we anticipate entiting the middle part of time the coming month. This end is being driven, by six men, at 184, per fathom. In 185 is being driven east, by six men, at 84, per fathom. The lode is importance, but the quality of the staff is much as usual—not rich enough locality, but the change is so far favourable, that whe reas the men have now 8, not may be supported by the continuous staff of the staff is much as usual—not rich enough locality, but the change is so far favourable, that whe reas the men have now 8, pt. 198, against 14. 168, last month. The 185 is being driven west, by six men, at 14, no, per fathom: the return of the last for vuch improved, and is worth 185, per International staff for vuch indicate the staff is my last of from the cross-cut and lead or form men are rising above the 175 cast of shaft for vuchlistion.

Taly BONT.—Thos, Ginvillo, Oct. 27. In No. 2 lode, since the 13th inst, was the below the 10. To morrow we shall resume stoping the lode below the 10. To morrow we shall resume stoping the lode below the 10. To morrow we shall resume stoping the lode below the 10. and also to drive a level cast from the cross-cut on the course of the lode, in order to communicate with the winze sunk below the 10, near the footway. The hope to send vous a full report next week.

Tankerkville—A. Waters, Oct. 26: The 190 cross-cut south, towards the main lode, is driven 7 ft. from the end of Watson's engine-shaft, and we have the more of the produce of t

mine I hope vel, west of and impreg. ground is

1876.

out the 136 in timbering twing direct esume sink-

13th inst., we I lead ore from lote below the of the lode, in the footway. I

h, towards the

le convenient, which is now many consistency, etc. In the 120 cast the ground continues etc. IdeEDOR.—J. Andrews, Oct. 24: In the 120 cast the ground continues mable for driving, but the hole is small and poor. In the 108 cast we are are the first point of the lote, and no lode has been taken down for the week, et an oringen in the 72 cast. The lode in the 45 cast is looking a little more nising, and is yielding more mundle, but is still poor for copper. The lode in tage in back of the 48 is worth 8; per fathout. The lode in the stope in bottom

FARION.

F. T. Hodge, Oct. 20: Western Shaft: The 160 cast end

E. T. Hodge, Oct. 20: Western Shaft: The 160 cast end

-a kin ily and. The stope in the bottom of the 130 cast

tin 17. per fathom. No other change in the bargains.

Il tons of good copper ore for sale on Nov. 2. All surface

ng on regularly and well.

Western Shaft: The lode in the 160 fm. level, east end,

th for tin 161 per fathom. The 150 cast end is worth 71.

-t end is producing stamping work.—North Shaft: The

per fathom. The stope in the bottom of the 130 cast is

No other changes.

glation. The 130 east end is promising account in the bottom of the 13, east is grated in worth 9ℓ, per fathom. The stope in the bottom of the 13, east is grated in worth 9ℓ, per fathom. No other changes, each 10ℓ, per fathom. No other changes, each 10ℓ, per fathom. No other alterations in the specific from the 25, and it still looks promising. No other alterations in the specific from the 25, and it still looks promising. No other alterations in the specific from the 25, and it still looks promising. No other alterations in the specific from the 25, and it still looks promising. No other alterations in the Stephanov was search and the 150 at the 150 at the 150 at 1

MICHMOND CONSOLIDATED. -Telegram: Week's run, \$37,000. Hope to nthe two iron furnaces next week. BERHARDT AND AURORA.—The directors have received a further shipment

ND ACRORA.—The directors have received a further shipment valued at present price about 4300.

can from the manager: 700 ozs.; 1000. profit. egram from the superintendent: We have cleaned up after a gross returns are \$3500 (700.). Everything is running smoothly, proving as we wash into the bunks.

EKK (600.)—G. S. Powers, Oct. 4: Waloupa tunnel is profar the rock is working splendidly. If the same kind of rock are the tunnel finished by Dec. 1. I am running powder drifts pairing sterk ditch, &c. After we get through clearing in all proceed to blast down the rock cuts, run powder drifts, s, &c., that there may be no delays when we get our full

and West I shall proceed to blast down the rock cuts, run powder drifts, supply pipes, &c., that there may be no delays when we get our full processing pipes, &c., that there may be no delays when we get our full process. The process of the process of the following advices from G. D. Belland Carlot of the process of the

smeth in the mines. As yet we have but a limited number of men, for until now gone his ever attempted to reach the mines until the end of October or begin and November. As it is now known that operations are resumed, no doubt and of yet of the third with the men we require. The layers of snow on the canchas form all the during the winter there had only been four falls of sufficient most allow that during the winter there had only been four falls of sufficient most are stated on the sufficient may state the snow does not remain on the side of the hill upon which the mines are lated to some one fully through the different workings of the state I was right in my statement that the company a mines can be worked all beautiful through the different workings of the state of the sufficient may statement that the company a mine cape that I was right in my statement that the company a mine cape the state of the state of the sufficient workings of the state of the sufficient may state to the worked all beautiful through the different workings of the state of the sufficient may state the state of the sufficient workings of the state of the sufficient working that the sufficient may state the sufficient may sufficient may sufficient may state the sufficient may sufficient m ort. I may repeat that by selection in breasure.

Lind ores of a high class.

ent dis overy).—The workings here have hitherto been chiefly

chiffones. In the deepest workings, immediately under where the shaft will come down, the leader part of the lode is 1% meter which, and will yield 8 tons of section of the mine. In the extreme western and of the workings here the lode has been cut off by a willer; as the lode was rich up to this cross course, accord. Smelling fast shall have been cut off by a willer; as the lode was rich up to this cross course, accord. Smelling fast shall have a for control Quemado—By way of preparation for the rest responsible of these works when the smeller arrives. I have put the old reverbers, sufficient quantity of regulate and other accumulation of metal from the bottom of the same of the control of the work of the control of the control of the will be control to the control of the co

o value, RENA UNITED (Gold). -Oct. 20: District Val Toppa: In Zero level charena: The water is sgain drained from the bottom, and the two 90 ends resumed; the lode in the north end continues the same—7 tons of 1 oz. 7 dwts. ore per fathom, and in the south end it produces 5 tons per fathom, at 1 oz. 4 dwts. per ton. The stopes in the north end of ground at the 80 are finished, and we have commenced to drive the 80 towards Acquarite Mine, the lode in the end yielding to commence with 1 ton of ore per fathom. The end north, on No. 2 lode, yields 2 tons of about 10 dwts. ore per fathom. The dividing of winze from Acquarite Mine to Peschicra has been completed, and we have resumed driving the 46 end south; lode unproductive at present.

MINING NOTABILIA

FEXTRACTS FROM OUB MINING CORRESPONDENCE.1 GREAT DYLIFFE LEAD MINE sold 1:0 tons of lead ores this month, realising

GREAT DYLIFFE LEAD MINE sold 1:0 tons of lead ores this month, realising £2:0:9 10s.

SOUTH WHEAL CROFTY is looking exceedingly promising at the bottom of the shaft; there are 161 tons of copper ore for sale on the list. The mine throughout looks well, which must be gratifying to the old shareholders, and there is one thing certain, that as soon as the tin standard advances to anything like a fair figure the shares will go to a high price, the mine being only in 937 shares, and situate in the richest district in Cornwall.

NORTH CORNWALL (Lead).—A long and very explicit report of this mine has been received at the company's offices, and the probabilities of success can be easily ascertained by reference thereto. Intending investors can have a copy of the same on application at the offices of the company. There seems to be but one impression concerning the future of the mine.

NEW ST. AGNES.—The directors have forwarded to Messrs. Johnson and

Matthey a sample of copper ore received at the London offices to be assayed for copper and sliver, which gives the following results:—Produce of copper, 29-5 pe cent.; produce of sliver, 25 ozs. per ton of 20 cwts. of copper oze. This, considering that 5 per cent. in bulk is yielded to the smelters, gives a commercial value of 25t. per ton for copper and sliver.

ECHOES FROM THE MINING MARKET.

The marked buyancy is London of the three principal metals—tin, copper, and lead—apparent during the latter part of the week has imparted a firmer time to the market. As we write we have telegraphic advice from Cornwall of a rise of 3l. per ton in the tin standards. It is to be hoped that the Cornish smelters will this time be able not only to adhere to their advance but to increase it shortly. Conner is steadily but surely rising, whijst lead is expectly.

standards. It is to be hoped that the Cornish smelters will this time be able not only to adhere to their advance but to increase it shortly. Copper is steadily but surely rising, whilst lead is extremely firm at the lite advances. With such a combination of favourable events business is naturally increasing, and there is a greater disposition than ever on the part of investors to buy into good lead shires and to pick up low priced tin stock. The Cornish copper standard has improved 3l. 6s.

A dividend of 7s. 6l. per share from Dolcoath has been announced, and, as the report is a favourable one, the shares have become very steady, at 3l to 35. We have to note, however, that the dividend delared, 1500l, more than absorbed the profit made on the quarter. Dolcoath is the deepest mine in Cornwall, and as yet shows no sign of exhaustion, for the lode in the bottom is 22 ft. wide, and is a most productive and valuable lode. It is interesting to learn that the Barrow borre in its ultimate success has much exceeded the expectations of the management. It has proved capable, in the hardest rock and in the lowest part of the mine, of driving three times as fast as by hund labour. During the next two months the relative merits of dynamite and tonite will be tested.

Wheal Jane is not to be stopped after all, as the views of other agents who have been called in differ materially from those of the late management as to its applicities. Capt. Southey, of west Chieveton, we believe holds out a confident hope that even with tin at present prices the mine can pay costs. West Stota has a fine improvement in the 150 for capper, and shares from 27 to 30 have risen to 45, 51–200, per share, estimated to produce \$74.1; adverse balance, 352l. At Cathedral the rich copper discovery holds good.

In lead shares from Gravels have had a good advance, and are in demand at 13½ to 14. East Van shows symptoms of weakness, but most other shares are precty firm at quotations. A good business has been done in Van Consols, and the shares are 1½ to

CAPITAL, AND ITS EMPLOYMENT. TO THE EDITOR OF THE MINING JOURNAL.

CAPITAL, AND ITS EMPLOYMENT.

TO THE EDITOR OF THE MINING JOURNAL.

Sir,—The tenour of the principal markets for stocks and shares has been marked by increased firmness, owing to the probability of the Eastern Question being set the without our having to resort to arms, and, the bellicose spirit having—for a time, at any rate—exporated, a much more hopeful feeling was evineed. This and the effect of considerably raising the prices of nearly all stocks and shares—which from some cause utterly inexplicable have advanced considerably. I should advise my readers who are holders of tais stock to sell at once, whilst they are so and the great advance, however, has had amongst other effects that of restoring confidence generally, and I am pleased to note the steadily increasing activity of the Mining Market. The hardening in the price of lead, copper, and in has been one of the causes, whilst the improved prospects of several undertakings has led to a pretty general demand for the shares of those mines which are brought more prominently to the notice of investors.

The principal transactions of the week have been in Leadhills, Prince of Wales, St. Particl, Parys Mountain, Aberdaumant, Llanrwst, and Pennant for British mines; whilst foreign mines have commanded attention principally in New Zealand, Kapanga, weetland Creek, Cedar Creek, Birdseye Creek, Richmond, Condes of Chill, &c. Collieries have also had considerable attention, puricularly in New port-aberearn, which are enquired for; whilst Cakemore, Biston and Crump Macdows, Chapel House, and others, have been dealt in.

I devoted a considerable portion of last week's communication to Aberdaunant and Llanrwst. The former, although pretty firm at previous prices, calls for no special notice; the latter (Llanrwst has, however, found many purchasers, and an advance in price has taken place. The prospects of the mine are very encouraging, and at the present price are worth attention. In the limmediate neighbourhood of Llanrwst there is a property which is deserving of

THE WEEK.

Saturday, Oct. 21.—Parys Mountains were dealt in to-day at 16s. 3d., which figure was offered for more shares without any result. The directors seem to have allotted among the shareholders as many of the shares (3L) as they thought necessary, and this has created confidence. East Carations were offered at 15s., and Belstone at 13t. Pennant, 5 to 5½; and not very pleutiful at this. The stope below the 40 yard level east is "as good a lode as any experienced authority could wish to see." Argentine, 6 to 6½; Confee of Chill, 6 to 6½; Fortina, 6 to 6½; Limares, 6 to 6½; Alamillao, 2 to 2½; Malabar, 3½ to 3½; Kota, 3½ to 5½; Rosa, 3½ to 5½; Limares, 5 to 6½; Alamillao, 2 to 2½; Limares, 6 to 6½; Alamillao, 2 to 3½; Limares, 6 to 6½; Alamillao, 3½ to 5½; Rica, 3½ to 5½; Confee of Chill, 6 to 5½; Fortina, 6 to 6½; Limares, 6 to 6½; Alamillao, 2 to 3½; Alamillao, 3½ to 5½; Rica, 3½; Monday,—Shares of the National Bufe Deposit Compuny, owing the imposing building tacing the Mansion House, are all but unsaleable with 6½, pald. In addition to doing a poor business in the letting of safes, the upper purt has not returned much yet for offices. The alterations wow in progress will, however, when completed render the building more adaptable for such purposes. There is 4½, yet to be called up on the shares. Assam Tea, 61 to 61; London Trainways, 6½ to 7½. A rise of ½ took place in Dover, A. and in Brighton, A, the former having an increase in the traffic of 17704, and the other one of 1350. Metropolitan and Caledonian improvement of 1½.

Tuesday.—In view of the settlement, commencing on Friday, Argentine Bonds of 1858 were run up 4½, business being done at 335 and at 54½. There was an improvement of 3½, in the 1871 and 1872 issues. The bunds are now nearly all held in one or two quarters of the City, and there they are likely to remain, for in one or two quarters of the City, and there they are likely to

until the afternoon, when there was a relapse, mainly to be attributed to sheer want of support from the public, who are doing little or nothing. Midland, however, showed at the close a rise of 36, being 1335 to 13374; the traffic gave the increase of 7086. Berwick had an increase of 13897, Locals an increase of 22012, 8heffield an increase of 13707. Orth-Western an increase of 38384, Great Western an increase of 38384, and Great Eastern one of 2010. Caledonian, after being dealt in at 11915, declined to 11815, the traffic showing a decrease—the only one this week—of 4635. East London were dealt in at 2015, after being 26 during the present account. A letter from the secretary states that "the water is inconsiderable in quantity." It was reported on 'Chango on Tuesday that there was 6 ft. of water in the Tunnel. Metropolitan, 1045 to 10435. Great Eastern, 47 to 473. Sheffield, 723/ to 73. Brighton, A, 983/ to 985/6. Berwick, 1643/ to 155.

THURSDAY.—This is the last day of the present account. Bilson and Crump, 715/ to 8, and some business reported at 81. The shareholders' committee, as was to be foreseen, have unanimously reported in favour of the acquisition of the Foxes Bridge and Central Collieries, which are about the best in the Forest of Dean, and adjoin Bilson. The Central contains over 15,000,000 tons of coal unwon. The new collieries were acquired by the Messrs. Goold and others in 18:4 for 121,000. The amalgamation would result, it is estimated, in an annual saving of 1200, per your in management atone. Newport Abeream shares are in demand at 50,, but non seem to be offering. They have reached the famous Black vein, and find it 9 ft. think. It is expected that this coal will be in the market inabout a month's time. Cardiff and Swansea, 13/ to 2: Alltami, 5 to 54; Chapel House, 3½ to 3½. FRIDAY (populny).—The markets show a firm appearance, and there is a good deal of bidding for Dover, A, and Sheffield, ostensibly for the purpose of having both carried over at a high price. Great Eastern are dull at

are made up at 73½ as against 75½ last time. Caledonian make up at 119½, last time 123½. Birmingham make up at 145, last time 148. Midland 133½, last time 123½. Dover, A, 111½, last time 133½. British stand aloue in making up same as last account—67½. The deficiencies, on the whole, are not so great as might have been expected, and seeing this a good many purchases are being made. — Theo o Clock. — Markets still firm, Caledonian being 119½ to 129; Great Eastern, 47 to 47½; Egyptian, 41½ to 41½; British, 97½ to 98; Hungarian, 74, 75, to 76; Atterdaunant, ½ to 7½; Llanrwst, 1½ to 2; Parys Mountain, 124.to 143; Atlantic and Great Western First Mortgage, 21 to 22; Bilson and Crump, 7½ to 8. — Churrter past Four o Cook. — Railways continue very firm. Great Eastern are up to 47½, it appearing that the East London Railway has resumed running its rains. There is a strong feeling now that the account will pass over without any serious compilections. As a rule the House takes pretty good care of itself when there has been a great fall. Chapel House something weaker, offered at 3¾. Birchim lane, Oct. 21.

With this week's Journal a SUPPLEMENTAL SHERT is given which contains: Original Correspondence: Iron and Steel Manufacture: Iro: With this week's Journal a SUPPLEMENTAL SHERT is given, which contains: Original Correspondence: Iron and Steel the Pirst Three Quarters of 1876: Mining in the East—No.1X.; South Australian Mines (J. B. Austin): Atlantic and Great Western Railway and Erie Railway Fusion; Mining Appliances; the University of Manchester; Van Consols: Slate Quarties, and the Slate Trade; Longitudinal Extent of Lodes—Dyliffe Lodes; Mining in Cardiganshire (8. Trevethan); Wheal Grenville, and Mr. Lane; War and Metals (R. Tredinnick); Lead Mining as an Investment. The Combinatin Mine—Lecture on Metallic Mines—their Production and Less—The Wild Duck, or Sportsman's Arms—"I never touch Mining "-Raising and Forcing Water—Teating Nickle Orespand Alloys—Forcing Mining and Metallurgy—On a New Water-pressure Pumping Engine at Claustual—Advanced Text-book of Geolegy—Taylor's Drum-dressing Machinery (Mustrated)—Patent Matters—Meetings of Chicago. Glenroy, Wheal Basset, Dolcoath, Scottish Australian, and other Companies.

TO THE METAL TRADE.

FOR COPPER, TIN, LEAD, &c., apply to-MESSRS, PELLY, BOYLE, AND CO., SWORN METAL BROKERS, ALLHALLOWS CHAMBERS, LOMBARD STREET, LONDON. (ESTABLISHED 1849.)

The Mining Market: Brices of Metals, Ores, &c.

WETAL MARKET-LONDON, OCT. 27, 1876

META	L MARKET-LONDON, OST. 21, 1816.
IRON. & s. d. & s. d	TIN. £ s. d. £ s. d.
Pig, GMB, f.o.b., Clyde 2 17 0	English, ingot, f.o.b 79 0 0
Scotch, all No. 1 2 10 0- 3 8 0	, bars , 80 0 0
Walsh foh Wales 5 15 0- 6 0 0	" refined 81 0 0
in London, 6 10 0- 6 15 0	Australian 74 0 0- 74 10 0
", in London. 6 10 0- 6 15 0 ", Stafford., ", 8 0 0-10 0 0	Tributor estrations and a
in Type or Tees 6 0 0-	Straits 73 0 0
, Swedish, London 11 5 0-11 10 0	COPPER,
lails, Welsh, at works 5 2 6- 5 5 0	Tough cake and ingot. 82 0 0- 83 0 0
Railway chairs	Best selected 84 0 0- 86 0 0
,, spikes	Sheets and sheathing . 88 0 0
Sheets, Staff., in London 9 15 0-10 0 0	Fat Bottoms 89 0 0
Plates, Staff., in London 9 10 0-10 0 0	Wallaroo 85 10 0
Hoops, Staff 8 15 0- 9 0 0	Burra, or P.C.C 83 10 0
Nail rods, Staff. in Lon. 7 7 6-7 15 0	Other brands 82 0 0
STEEL.	Chili bars, g.o.b 76 0 0
English, spring 14 0 0-23 0 0	PHOSPHOR BRONZE.
cast 25 0 0-45 0 0	Bearing metal £112 0
Swedish, keg15 10 0	Other alloys £120 0 0- 140 0 (
, fag. ham17 10 0	
LEAD.	Brass. 94d. 94d.
Euglish, pig, common . 21 10 0-21 15 0	Tubes
L.B21 10 0	Sheets
W.B23 0 0	
,, sheet and bar 22 5 0-22 10 0	Yel. met. sheath. & sheets. 71/4 - 8
, pipe22 15 0-23 0 0	Nails composition 9 -101/2
, red	TIN-PLATES.* per box.
white28 0 0-29 10 0	Charcoal, 1st quality 1 4 6- 1 6
patent shot25 0 0-25 10 0	, 2nd quality 1 3 0- 1 4
Spanish21 0 0-21 5 0	Coke, 1st quality 1 10-
QUICKSILVER.	,, 2nd quality 0 19 0- 1 0
Flasks of 75 lbs., ware. 8 0 0	Blackper ton 17 0 0 - 17 10 0
SPELTER.	Canada, Staff. or Gla., 13 0 0 - 13 10
Bilesian or Rhenish 22 15 0	at Liverpool
English, Swansea 23 10 0-	Black Taggers, 450 of \$30 0 0-
Street zine 26 10 0- 27 0 0	14 × 10

* At the works, 1s. to 1s. 6d. per box less for ordinary; 10s. per ton less for Canada; IX 6s. per box more than IC quoted above, and add 6s. for each X. Terne-plates 2s. per box below tin-plates of similar brands.

Canada; IX 8s, per box more than IC quoted above, and add 8s, for each X. Terme-plates 2s, per box below in-plates of similar brands.

REMARKS.—The great shock which our markets sustained last week threw the trade temporarily into a state of consternation and confusion, and completely reversed the course of prices, but as the refusal of the six-months armistice was not followed by an immediate hostile declaration on the part of Russia, the situation of affairs was deemed less desperate than at first, and the feelings of alarm gradually subsided. This week the recovery has continued, and a very satisfactory amount of business has been concluded in some metals, both for speculation and consumption, but before any decided movement can be effected in our markets it will be necessary to have more definite information respecting the intentions of the European Powers about the Eastern Question. The crisis has evidently reached a most critical point, and there still appears great danger of the war spreading, so that every precaution should be taken to prevent a repetition of the recent collapse in metals, especially copper and tin. The market had been progressing so satisfactorily that nobody was expecting such a sudden reaction, and consequently, being unprepared, it created the greater sensation; but violent fluctuations at all times are particularly objectionable, and detrimental to the interests of the whole trade, and must, if possible, be prevented occurring again. The vivances, no doubt, were a little too rapid in copper and tin, which caused the markets to be more susceptible to such a convulsion, and as we lately pointed out they were not sufficiently matured for a rapid rise there was an abundance of evidence to warrant an improvement of a substantial character, but it would have been better, as dircumstances have since proved, that the movement had been made in a steadier and more consolidated manner, however it is difficult to centrol the impetuosity of buyers when once they are impressed with the deep conv REMARKS.-The great shock which our markets sustained last

ities monach, and it is the realisations from these sources that most life generally springs. In perilous times it is better for small dealers ally by contracting their engagements and keeping their resources e-a time of war may be the opportunity for a capitalist to employ dvantageously, but no one should embark in any risky business who it to wait or lock up their money for a considerable period; that our utilimately be good there is not the slightest shadow of a doubt, but the future is enveloped in too much mystery to make it a safe time or the prudent trader to venture beyond his depth.

—On Monday 76, was realised for Chili bars but the

tawhile for the prudent trader to venture beyond his depth.

COPPER.—On Monday 76l. was realised for Chili bars, but the Copper.—On Monday 76. was realised for Chili bars, but the buying was limited to only one or two quarters, and was not in any way general—indeed, on early 'Change not over 75.1 lbs. could be obtained either for cash or forward, but it transpired later in the day that 76. had been given, and 84. 10s. for Wallaroo ingots. On this announcement buyers more readily offered 75. 10s. for go.b., the but beyond this figure sellers did not succeed in making any impression; at the decision. The market on Tuesday opened with selers at 76. for Chili bars for prompt and forward, but during early 'Change it was said that 76. I'm was paid for go.b., forward, and upon this buyers gave 76. for cash parcels, but they were soon as far as seen is equal to the corresponding ground in the 95 to 69. The sale of lead ores this week (220 tons) has realised and sellers continued to offer bars the remainder of the day at 76. I'm sale of lead ore of the day at 76. I'm sale of lead ore of the day at 76. I'm sale of lead ore of the day at 76. I'm sale of lead ore of the day at 76. I'm sale of lead ore of the day at 76. I'm sale of lead ore of the day at 76. I'm sale of lead ore of the day at 76. I'm sale of lead ore of the day at 76. I'm sale of lead ore of the day at 76. I'm sale of lead ore of the day at 76. I'm sale of lead ore of lead ore of the day at 76. I'm sale of lead ore of lead ore of the day at 76. I'm sale of lead ore of week's run at \$37,000; they hope to start the week's run at \$37,000. The accident to the blower which supplied the blast to remember of the day at 76. I'm sale of lead ores this week (220 tons) has realised and longer time than was anticipated to the furnaces has required a much longer time than was noticipated at the longer of lead ore of lead ores this week (220 tons) has realised again in order. The weekly report from the large of lead ore of l

for the buying was in a very contracted sphere, and there was an absence of general activity.

Thursday's business was limited, and previous operators did not seem disposed to go on increasing their purchases any longer; nevertheless, it was reported that 76.5s. cash had been obtained. But the final summary of the day still showed that so be procurable at 76.6c. ash, and 10s. higher for forward delivery. Australian lad been well supported, and the scoreity of Wallaroo gives it an advantage over other brands. Wallaroo cake realised 85.10s. to 85.17s. 6d. per ton, and Bura, 85.10s. To-day there has been a tolerably strady market, although in the early part sales were effected slightly below yesterday's prices, g.o.b. having changed in the price has advanced, and 85.10s. has been realised to-day. Burra Burra is about 83.10s. The demand for manufactured is better, and smelters have advanced, and 85.10s. has been realised to-day. Burra Burra is about 83.10s. The demand for manufactured is better, and smelters have advanced their price of 4 by 4 sheets to 88.4c., and strong to 88.4. Thugh is quoted 82 to 83, and the market closes firm.

IRON.—The position of this market has not improved, and as the eason is now rapidly advancing towards its close there is little or no probability of an improvement this year. Within another month shipments to the northern ports will have been completed, and it is difficult to see that anything of value will remain after that time sufficient to support present prices. It seems a most extraordinary proceeding to be forever trying to prop up a deayed market, when his weakness are absolutely necessary, not only to stimulate the demand but for the purpose of the demand does not in any way justify them, and the immediate prospect of the during foreign competition. The shipping trade, of course, suffers more than any other branch, and the loss to the country is of the most serious consequence of the demand does not in any way justify them, and the immediate prospect of the during the succeed

Week ending Oct. 21, 1876 Week ending Oct. 23, 1876 Week ending Oct. 23, 1875	
Increase Total decrease for 1876 Imports of Middlesborough piz-iron into Grangemouth:—	
Week ending Oct. 21, 1876 Tons Week ending Oct. 23, 1875	4,179 2,273
Decrease	56,633

LEAD.—During the past week our market has undergone scarcely any change. Sellers have held firmly to their prices, and are not likely to lower them while supplies keep moderate and the prospects of war continue.

Spelter.—In moderate request; sellers maintain previous quo

SPELIER.—In monerate request; seners maintain previous quotations. Zinc at public auction has been sold down to 26%, 5s., being a reduction of 5s, per ton upon last sale. The importations of foreign zinc are so large that they greatly interfere with the sale of English, and render the manufacture of it a very bare business.

QUICKSILVER.—Sides in small quantities only continue to be effected at 8% per bottle for Spanish, but below this figure sellers decline to make sales.

STEEL—In slightly better enquiry. German keg and fagget fine

decline to make sales.

STEEL.—In slightly better enquiry. German keg and faggot fine, 111, 15s to 12/15s, according to brand; Swedish keg, 15t. 10s.

TIN-PLATES.—The demand is still very slack, although there has been rather more doing this week, and orders are very much wanted at the works to avoid accumulation of stocks. The advices from Melbourne are not satisfactory, and merchants are receiving very few orders. The trade in America, however, seems to be decidedly improving, and it is hoped that there will shortly spring up an American demand.

Improving, and it is noped that there will shortly spring up an American demand.

Tin.—The mark-t opened flat at the commencement of the week, and as buyers appeared shy sellers began by offering Straits for November below the current prices at the close of last week, but 5 tons only was sold at 721. 10s., and 15 tons Australian at 711. 15s. to 72l. cash. The reduced price did not move buyers to bid for any quantity, and thus by a small sale only the feeling of the market was ascertained, and there was evidently no disposition on the part of buyers to was ascertained, and there was evidently no disposition on the part of buyer accept risks. On Tuesday the market remained quiet, and Australian was at 711. 10s. to 711. 15s. for delivery all the year, and Straits 721. 5s. On Wednes there was a much better market, and it was reported that smellers were beginn to buy, and also that there was a covering for the settlement at the end of month. Prices advanced, and Straits realised 741. cash, and Australian 721. to 7 and 721. to 721. 10s. for arrival. Banca changed hands at 741. cash. Again, Thursday, the market was fairly brisk, and Australian was sold at 731. to 731. and Straits at 741. cash for October, and 741. cash. add ystraits is ruling 741. 10s., and Australian 731. to 732. 10s., but the tone of the market at the coff the late Change was weaker.

THE IRON TRADE - (Griffiths's Weekly Report) .- Friday Evening.

THE IRON TRADE — (Griffiths's Weekly Report). — Friday Evening. The market for Scotch pigs on the Glasgow Exchange closed this morning at 57s, warrants. There was no business reported this afternoon on this Exchange. The above price is about 61. higher than the closing price this day week at Glasgow. We quote makers 'No. 1 fron: —Gartsherie, 65s, 61.; Cottness, 69s.; Calder, 65s, 61.; Langloan, 65s.; Summerlee, 61s.; Monkland, 57s, 64, Lo.b. Glasgow; Glengarnock, 63s, 64.; Eginton, 57s, 64., Lo.b. Ardrossan; Shotts, 65s, 64, Lo.b. Leith: Kenniel, 55s, f.o.b. Bo'ness. The uncertain state of politics in the East of Europe has insettled the improved position which the iron trade presenter a month since. The markets, both for pigs and finished iron, ore less firm in all the producing districts, and the trade must be reported quieter, with less disposition of buyers to enter into extended business. The only orders on this market are for sheet-iron, doubles and latten being the kinds of sheets in most request. The demand keeps up also tolerably well for sheet-iron for India, and the galvanisers generally have bought freely of sheet-iron at and since Quarter-day. There is some business doing in nail rods. Boller plates are flat, and second class hars are quieter in this market, and can be bought a trifle lower than at Quarter-day. On the contrary, all marked Staffordshire bars are firm at M:, the Earl of Dudley s, §1. 12s. 64. We have no change to report in the tin plate trade. The makers are still restricting the make of this article, and we hope soon to hear that the demand will exceed the supply; for the present we cannot say that this is so. One mannfacturer of respectable old standing sold in Liverpool last Thursday 7099 boxes of tin plates. This large purcel was not all placed with one house. In Staffordshire most of the manufacturers have orders to keep the sheet mills running full time. The orders given out at Q inter-day for second-class bars and other kinds keep the works in operation for the present. The le

Messrs. Fry, James, and Co.—Copper has maintained its stronger position all round, whilst in Australian there has been further improvement in values. Ores and regulus are being held for higher prices than smelters are ready to pay, and hence there is but a limited quantity of English being made.—Iron is said to be in slightly improved demand for some kinds, but generally speaking it is extremely flat still.—Tin is steady; the business of the last fortnight has been considerable, and prices are somewhat stronger.—Bredter is in steady demand, and the late improvement in values is maintained.—Lead is firm at quotations, which are a slude higher than our last.—Tin Plates continue dull.

Messrs. Sanford and Bird.—Copper continues steady.—Tin is firm at quotations.—Lead is firm.—Antimony quiet.

Messrs. Brixley and Abell—Godd: 28,000. from India is the only arrival of gold we have to report for the week. There is, however, no demand for bars for export, but sovereigns continue to go to Egypt, 257,000. having been withdrawn from the Bark since the 19th inst. The P. and O. steamer takes to-day 101,000. to Alexandria.—Silver has gradually improved in value, and, subsequently to the issue of India Council Drafts, transaction have taken place at 535/4. per ox., the market remaining tolerably firm at that quotation. The imports during the week comprise 110,000. from Germany, 8120. from New York, and 10,430. from the West Indies. The steamer takes 165,000. to Bombay.

The MINING SHARE MARKET has been firm, but on amount of business has been transacted since our ce our last, and the dealers are chiefly engaged in the settlement of the fortnightly

account.

The mines dealt in have included Roman Gravels, Pennerley,
Parys Mountain, West Chiverton, Leadhills, Van, East Van, Van
Consols, Glyn, Clementina, Tincroft, South Condurrow, Tankerville,
West Tankerville, Rookhope, Prince of Wales, Treleigh, and a few
others.

which will be found in another column, is very satisfactory, and the agent writes "the mine will speedily satisfy every expectation has been held out respecting it." In our last The Lovell Mine report "The level;" the paragraph should have read—"The Lovell is look. "The level;" the paragraph should have read—"The Lovell is look. "The level;" the paragraph should have read—"The Lovell is look. "The level;" the paragraph should have read—"The Lovell is look. "The level;" the paragraph should have read—"The Lovell is look. "The level;" the paragraph should have read—"The Lovell is look. "The level;" the paragraph should have read—"The Lovell is look. "The level;" the paragraph should have read to the look of the look. "The level is look." The look of the look. "The look of the look." The look of the look. "The look of the look." The look of the look. "The look of the look." The look of the look. The look of the look is being carried, worth 3 tons, or 100, per fathom. In the 100 east 24th of the look is being carried, worth 3 tons, or 100, per fathom. The look of the look is being carried, worth 3 tons, or 100, per fathom. The look of the look is being carried, worth in the aggregate 41 tons of copper, or 1586, per fathom.

Doleanth, 332 to 335 ex div.; at the meeting held in Comwall the accounts showed a profit on the quirter of 15932, and a dividend tin ores sold, 297 tons, realised 12,8384; copper, 600. The total of it rite three mouths, which were charged up to Sopt. 30 st. 10,734. The engine-shaft is sunk 12 fms. under the 325; the look arrived, the south part, has in proved to 400, per fathom. The wines below the 325 east is worth 600, per fathom. The various politis in operation, as valued in the report, are worth in the signer, and the look of 1504, and a folition of 61834. A call of 2c per shire was made. The cross so discardidate copper 1004, and 36 tons of the part are discarded. The accounts showed a loss on the quarter of 7544, and a folition of the look in the 60 cross-cat, no the Stevens's shaft. Rel

struction of the mill is progressing satisfactorily.

The Market for Mine Shares on the Stock Exchange during the week has been comparatively inactive, but without any tendency to weakness; on the contrary, in some departments heavy transactions have taken place, especially in low-priced foreign shares. The metal market points to improvement, partly in response to the more encouraging aspect of trade, as indicated by the Board of Trade Returns. The mines mostly dealt in have been St. John del Rey, Argentine, Richmond, Exchequer, Eberhardt, Condes, and LYL. Rey, .

New Zealand Kapanga, 5 to $5\frac{1}{2}$; there has been again a large business in these shares, and investors are absorbing them rapidly. There can be no doubt as to the eligible nature of these shares as an investment. The news from the mine continues good. St John

There can be no doubt as to the eligible nature of these shares as an investment. The news from the mine continues good. St. John del Rey, 340 to 350; Argentine, 5\(^2\) to 6\(^4\). Port Phillip, \(^1\) to \(^3\); the profit for the month ending Aug. 16 was 705\(^3\); the yield was 4 dwt. 12 grs. per ton. Javali, \(^3\) to \(^3\); a cablegram announces a nuyleiding 700 ozs. of gold, leaving 1000\(^3\), profit.

Scottish Australian, 2 to 2\(^3\); the accounts for the half-year show an available balance (including 3743\(^3\), brought forward) of 18,25\(^3\), ti sproposed to pay a dividend of 17\(^3\) per cent, per annum (free of income tax), leaving, after adding 726\(^3\), to the reserve fund, a balance of 5009\(^3\), to be carried forward. Yorke Peninsula, \(^3\) to \(^3\) to prospects at the Kurilla Mine are reported as encouraging, and the manager states that only a somewhat higher price for copper

the prospects at the Kurilla Mine are reported as encouraging, and the manager states that only a somewhat higher price for copper would place the balance on the right side.

Tharsis Sulphur, 21 to 22; the shares are this week quoted for the first time in the Official List; this, and the fact of the company having just declared the very satisfactory amount of 11 per cent, being the second half of the dividend of 22½ per cent. declared out of the profits of 1875.

Condes, 5 to 51: the latest advices (Sept. 12) from Mr. James

of the profits of 1875.
Condes, 5 to 5½; the latest advices (Sept. 12) from Mr. James Seccombe report that they had worked their way through the snow and reached the Isolina Mine. The canchos and workmen's house were filled with snow in places to the depth of 5ft., and snow had drifted into the mine, but beyond this there was no snow on the mines. There were few men, as until now no one had ever attempted to reach the mines till the end of October or beginning of November, but he had no dealy they would come up by degrees, as it was to reach the mines till the end of October or beginning of November but he had no doubt they would come up by degrees, as it was known that operations were resumed. The northerly winds keep the hill side clear of snow, and this confirms his opinion that the mines can be worked all the year round. In the Batter part of Isolina he believes, judging from the outcrop of the lode going estward, and its appearance in the levels, that they have a fine prospet in that direction. The mine is perfectly dry, and the lode easy to work. In Dawson's (recent discovery) deepest workings the leafer part of the lode is 1-25 metre wide, and will yield 8 tons of rich work. In Dawson's (recent discovery) deepest workings the leader part of the lode is 1·25 metre wide, and will yield 8 tons of rich ore per fathom. The smelting establishment at Corral Quemado is being put in order; he is having the old reverberatory furnace repaired, and believes the regulus and accumulation of bottoms will cover cost of repairing; he believes the best portions of this will give over 350 ozs. of silver per ton, and much copper and lead. In new discovery on the Isolina lode is valued at 1200, per fathom. The high-class ores will be shipped to this country, while those of an

on that report printed is look-th 101/. st Van, t, 5½ to ; West mine is opera-to 17s,

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ls, 2 to 24; ailable for West Van, continues n, 2½ to 2¾; sinking.; Frontino New Que-, 2½ to 2¾, n gives the Condes of Isolina," is e bottom of of ore. The 's manager, he 400 drift ications are en to come g. The con-

during the tendency to leavy trans-eign shares. ponse to the he Board of St. John del Condes, and yain a large hem rapidly, shares as an d. St. John p, ½ to ½; the 1 was 4 dwts.

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THE MINING JOURNAL.

THE MININ

e junction of the granite and killas, which promises well levelopment.

development.

to 1: Carn Brea, 31 to 39; Devon Great Consols, 3½ to 3½; Dolosis: East Caradon, ½ to 1: East Van, 8 to 8½; Glyn, 2½ to 2½; 19½ to 3½; Great West Van, ¾ to 5½; Highson Down, ½ to ½; 19½ to 3½; 10 7½; Marke Valley, 1½ to 1½; Fatcley Bridge, 2½ to 3½; 10 7½; Marke Valley, 1½ to 1½; Fatcley Bridge, 2½ to 3½; 10 7½; Marke Valley, 1½ to 1½; Fatcley Bridge, 2½ to 3½; Sousis, ½ to ½; Pennerdey, 1½ to 1½; States, 10 1½; Van, 38 to 11; Tankerville, 10½ to 10½; Tincroft, 18½ to 19½; Van, 38 to 10 1½; West Assheton, 1 to 1½; West Assay, 4 to 3½; West Assheton, 1 to 1½; West Assay, 4 to 5½; West Assheton, 1 to 1½; West Basset, 4 to 5; West 1 to 18; West Tankerville, 1½ to 1½; West Assay, 4 to 3½; Consol Terrible, ½ to 1; Condes of Chili, ¼ to 5½; Consol Cerrible, ½ to 1; Condes of Chili, ¼ to 5½; Don 1 (colarado Terrible, ½ to 1; Condes of Chili, ¼ to 5½; Don 1 (colarado Terrible, ½ to 1; Condes of Chili, ¼ to 5½; Don 1 (colarado Terrible, ½ to 1; Condes of Chili, ¼ to 5½; Don 1 (colarado Terrible, ½ to 1; Condes of Chili, ¼ to 5½; Don 1 (colarado Terrible, ½ to 1; Condes of Chili, ¼ to 5½; Don 1 (colarado Terrible, ½ to 1½; Condes of Chili, ¼ to 5½; Don 1 (colarado Terrible, ½ to 1½; Condes of Chili, ½ to 1½; Don 1 (colarado Terrible, ½ to 1½; Condes of Chili, ½ to 1½; Don 1 (colarado Terrible, ½ to 1½; Condes of Chili, ½ to 1½; Don 1 (colarado Terrible, ½ to 1½; Condes of Chili, ½ to 1½; Don 1 (colarado Terrible, ½ to 1½; Condes of Chili, ½ to 1½; Don 1 (colarado Terrible, ½ to 1½; Condes of Chili, ½ to 1½; Condes of Chili, ½ to 5½; Condes of Chili, ½ to 1½; Condes of Chili, ½ to 5½; Condes of Chili, ½ to 1½; Condes of Chili, ½ to

Iteries.—There has been a better demand for these shares the week than for some time past. The revival in the coal has now undoubtedly commenced, and largely increased rais-disales, with in most districts a rise in prices, may be looked asles, with in most districts a rise in prices, may be looked the harbingers of further improvement. Even in South blere trade has been almost worse than in any other coal districts, pro-are now distinctioned to enter into contracts at present prices. The past few old weather have, as of course might be expected, enlivended the house is, and collicries which supply good markets, such as London or Liverpool, as very bury, and have been sending away a very large quantity of coals, informed that in the last fortnight Newcastle alone has shipped more coal a very been previously sent out within a similar period, and our reports exarous collicries are all to the effect that the works are being kept in full a. All these considerations would appear to form good inducements to colliery shares. RIES.—There has been a better demand for these shares

still one of the first favourites, with a good brisk enquiry. The new pits is every that could be wished, and is rapidly approach-

ellected at an intermedia	Buyers, B			luyers.		
Argentine Gold			Pennerley			
Carn Brea	34	36	Penstruthal			
Devon Great Consols	27/8	31/8	Plynlimmon	53.	78	. 6d.
Dolcoath	34	36	Prince of Wales			39.
Eberhardt	856	8 7/8	Richmond	936.		95%
East Caradon	3/4	7/8	Roman Gravels			
East Van	814	834	Rookhope			. 61.
Exchequer Gold	2	21/8	Santa Barbara			21/4
Flagstaff	1	13/8	San Pedro		178	
Frontino	134	2	Sierra Buttes			11/4
Glenroy	3	31/4	South Condurrow	5 .		51/4
Glyn	23/8	25/8	Tankerville	10 .		101/2
Great Laxey	20	21	Tineroft			191/2
Javali	11s	12s.	Van	37	***	39
Ladywell	11/2	15%	Van Consols			21/
Leadhills	7	736	West Assheton	1		11/4
Marke Valley	136	15%	West Chiverton	18		19
			West Tankerville	15/8		13/4
New Quebrada	27/8	31/6	Wheal Crebor		149	234
Parys Mountain	12s	148.	Wheal Grenville	1		11/4
Pateley Bridge			Wheal Uny	11/6	***	13/4

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75 ALVIGGAN & BURNGULLOW. Sellers state lowest 200 TREBEIGH CONSOLS. Sellers state lowest price.
100 NEW HENDRA.

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100 PARYS MOUNTAIN COPPER 20 0 0
50 WINERA LEAD 20 0 0
50 VAN CONSOLS LEAD 11 7 6
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SPECIAL BUSINESS in—Monydd Gorddu, Schicquer, New St. Agnes, Prince of Wales, Trebeigh Consols, South Frances, Wheal Cretor, South Condurrow, Cathedral, Wheal Genville, Chapel House Colliery, Aberdaunaut, West Great Work, Llaurwst, and Combination.

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Mr. THOMPSON Strongly recommends the purchase of the shares of the CHAPEL HOUSE COLLERY COMPANY (Limited) for investment. This company, to withstanding the stagnation in trade, clears a profit of 2s. per ton on its coal, and when the new works are completed be present handsome returns will be much augmented.

MAP OF CARDIGANSHIER.—An EXACT MAP, showing the LEAD-BEARING LODES of this important county, as laid down by the Geological Survey, may be had of Mr. R. Shitti, 4, New Broad street, City.

MR. W. TREGELLAS, 122 BISHOPSGATE STREET
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Deals in all descriptions of Stocks and Shares at close market prices.

Date. Mine	a	-	EAD	-			Purchasers.
ct. 12-Powell C	onsolidated.	20		£13	17		Panther Lead Company.
13-West Tar							
	Dendraeth				11		Nevill, Druce, and Co.
16-Glogfach							Weston, Son, and Co.
	r. No. 1				7		
	No. 2			15	2	6	 Panther Lead Company.
	ren			18	3		Nevill, Druce, and Co.
-Cwmysty	with	45	*** ****	14	8	6	 Weston, Son, and Co.
17-The Islan	Mines	. 9	*******	13	10	0	 Sheldon, Bush, and Co.
- Di	tto	. 3	*******	9	10	0	 ditto
20-Minera	****************	44	*******	14	12	6	 Walker, Tarker, and Co.
- ditto		65	********	14	14	0	 Adam Eyton.
- ditto		65	*******	14	13	6	 Walker, Parker, and Co
- ditto	*******	. 25		14	11	6	 ditto
- ditto		. 27		14	10	6	 Panther Lead Company
					12	0	 ditto
25-Great D					6	6	 Walker, Parker, and Co.
26-Tankervi	lle	. 50		15	5	0	 G. Burr.
- ditto						6	 Sheldon, Bush, and Co.
- ditto	***********	. 50		15	0	0	 G. Burr.

		B	LENI	DE.		
Date.	Mines	Tons.	Pri	ice pe	r ton.	Purchasers,
Oct. 20-	Minera	60	£	5 5	6	Bagillt Company
-	ditto	33 .	******	5 10	0	ditto
	ditto					
_	ditto	40 .		5 10	0	ditto
-	ditto	23 .		4 10	0	ditto

Notices to Correspondents.

Much inconvenience having arisen in consequence of several of the Number during the past year being out of print, we recommend that the Journal should be filed on receipt; it then forms an accumulating useful work of reference.

during the past year being out of print, we recommend that the Journal shavild be kied on receipt; it then forms an accumulating useful work of reference.

ORE-WASHING MACHINERY.—Can any correspondent inform me, through the Journal, the best kind of dressing machinery, simple and cheap, for the separation of blende from lead? I believe Hunt's jigging machine was once recommended for this purpose. Where can one of these be obtained? what would be the cost? and can the separation be completely effected by it?—B.

NICKEL ORE.—"C. W. D." (Queen Victoria street).—The price of nickel ore, calculated on the basis of units of produce, varies considerably according to the other metals with which it is associated, and the nature of the impurities which the ore contains. It is frequently worth no more than a few shillings per unit, whilst contracts were reported to have been entered into a Paris for the purchase of a particular New Caledonian nickel ore, which is of a special quality an I contains the contracts were reported to have been entered into at Paris for the purchase of a particular New Caledonian nickel ore, which is of a special quality an I contains the contracts were reported to have been entered into at Paris for the purchase of a particular New Caledonian nickel ore, which is of a special quality an I contains are occasionally met with. Annabergite, for example, has been found in Wheal Chance, near St. Austell, with the arsenical nickel, and also at Pengelly Mine, St. Teath, but not in marketable quantities, and the same may be said of the copper nickel produced at the same mines. A vein of the latter one was once reported to have been discovered in the 200 fm. level at Fowey Consols, but little hus since been heard of it. The emerald nickel, a carbonate ore, with about 55 per cent. of oxide of nickel, is so are as to be unworthy of consideration. It was originally noticed in Pennsylvania, U.S., and Dr. Heddle once met with it upon chromate of iron; he referred it to the decomposition of ordinary nickelkies

pean oct of maker.

TERRA COTTA.—An article was published, some years since, in the Mining Journal, advocating the use of Cornish or Devon terra cotta for decorative building purposes. Where can I now obtain an illustrated and priced catalogue of capitals, corbels, string courses, crow-steps, &c, of that material?—R. A. B.

corbels, string courses, crow-steps, &c, of that material?—R. A. B.

**Received,—"Weekly Reader: "Next week-"W. G."—"T. B. L."—"Y. Z."—

"Shareholder" (Wheal Bassec)—"No Animus"—"A Bonder"—"Correspondent" (Barmouth) should writs to the Chaireman of the company—"W. F."—

"Shareholder" (Glagow): A report of the meeting appeared in last week's Journal—"Cormbiensis"—"C. E."(Leeds): Weshall be glad of the particulars.

**BHARE DEALING.—We never interfere in the sale or purchase of shares; neithed we recommend any particular mine for invesiment or speculation, or broker through whom business should be transacted. The addresses of most of the latter appear in our advertising columns.

latter appear in our advertising columns.

IMPORTANT NOTICE—REDUCTION OF POSTAGE ON THE "MINING JOURNAL."—In consequence of the new POSTAL CONVENTION, which came into operation on July 1, the postage of the Mining Journal to many countries will be reduced to one fourth. Henceforth the subscription will be 14. 10s. 4d. per annum (39 frs.), postage included, for the following countries. The amount will, if desired, be collected at the subscriber's residence at the end of each year. The subscription continues until countermanded:—Austria, France, Belgium, Denmark (including Iceland and the Farce Islands). Egypt, Germany, Gibraltar, Greece, Heligoland, Italy, Luxemburg, Netherlands, Norway, Portugal (including Madeira and the Azores), Roumania, Russia, Servia, Sweden, Switzerland, United States, Mata, Turkey, Morocco, Tunis, and the Canary Islands. Spain 14. 19s. (50 frs.)

Turkey, Morocco, Tunis, and the Canary Islands. Spain 11. 193. (50 frs.)
Avis Important—Aux Anonnes Etrangers Du" Minns Journal."—A ca
de la nouvelle Convention Postale il y avait, à partir du ler Juillet 1875, i
grande diminution du prix de l'abonnement du Monng Journal pour bien
pays dont le taux des postes était jusque l'àbien élevé. A partir du ler Juillet
prix de l'abonnement est de 39 frs., le port compris, pour l'Autriche, Belgiq
France, Danemarok et ses dependances, l'Egypte, l'Allemagne, la Gréce, l'ItaHollande, Portugal et ses dependances, Roumanie, Russie, Servie, Suède, la Suis
la Türquie, l'Afrique septentrionale, etc. Le montant, si l'on le veut, sera tou
a domicile, la fin de l'an. L'abonnement continuera sauf avis contraire.

THE MINING JOURNAL.

Bailway and Commercial Gazette.

LONDON, OCTOBER 28, 1876.

NOXIOUS VAPOURS.

A Royal Commission, composed of able and scientific men, has just entered upon an enquiry of great importance to the manufacturing and commercial interests of the kingdom. That enquiry resolves itself into an investigation of the deleterious effects of vapours emitted by various manufactures and works upon vegetable and animal life surrounding such works, and also to ascertain if some means life surrounding such works, and also to ascertain if some means cannot be adopted whereby such deleterious effects can be averted. The subject is one which has long since engaged the earnest and serious attention of most eminent men, taxing the ingenuity of the most able chemists and mechanical engineers alike. Years ago it caused litigation of almost unparallelled duration and expense, and we know from personal knowledge it left anything but friendly feelings and recollectiors in the minds of litigants who hitherto had been on terms of the closest intimacy and friendship. Truth to say, the results of the experiments made, and the only partial adoption of the Acts already in operation, have not been productive of that amount of good which we had hoped. The enquiry, therefore, just commenced will, doubtless, be welcomed by all classes. The evil commenced will, doubtless, be welcomed by all classes. The evil proved, and some feasible and comparatively inexpensive remedy pointed out, the great manufacturers will not hesitate to put it into practical operation, for the interests of none can be promoted by

practical operation, for the interests of none can be promoted by eternal warfare with their neighbours.

It would be useless for us to attempt to ignore the fact that the "vapours" emitted by many of our manufactories are "noxious"—ie. productive of injury to the surrounding vegetation, and prejudicial to animal life. Should anyone doubt this, let him pay a visit to almost any of our great manufacturing sites, and he will be able at a single glance to trace the unmistikeable effects of works' smoke upon crops and flowers, whilst hill-tops are almost denuded of vegetation. The protracted and expensive lawsuits which took place some 15 or 20 years since between the proprietors of the Red Jacket Copper Works, near Swansea, and an extensive landed proprietor near Neath, eight miles off, showed that trees were stunted in growth, shrubs almost destroyed, and vegetable life considerably injured, whilst oxen feeding upon the grass in the surrounding fields were partially poisoned by the precipitated arsenic. rounding fields were partially poisoned by the precipitated arsenic, and were more or less diseased in the knee joints. No authenticated case of injury to life, however, was established at that trial, and it is questionable even to the present day whether, however unpleasant the fumes of copper smoke may be, it has a tendency to be preju-dicial to human life. On the contrary, many cases of extraordinary longevity of life might be cited amongst those who have lived all their lives in the very midst of these smokes, enjoying the most

robust health.

We will take it for granted that many of our large manufactories do emit "noxious vapours," alike destructive to vegetable life and prejudicial to that of animal. In order to establish this Dr. BALLARD, of the Local Government Board, has been for some time past making enquiries as to the effects which the vapours emitted from chemical works, bone boiling, glass works, varnish making, and others of a like nature produce upon the vegetation of the adjacent districts and the health of the inhabitants, and this report cannot fail to be of great assistance to the Commissioners in their investi gation. The reports of the various Inspectors under the Alkali Acts, both of 1863 and 1874, contain a good deal of valuable information. Those Acts, although they have accomplished some good, have not proved of that beneficial character which was anticipated from them. Other works and munufactures unquestionably emit "noxious vapours," almost unchecked, which are prejudicial to animal and vegetable life, and which it must be to the interests of

Commissioners will not be influenced by such a circumstance-if commissioners with not be inneeded by such a circumstance—it such be a fact—and that no vexatious crusade is to be made against the proprietors of iron, copper, steel, patent fuel, and other works or manufacturers generally. These are the foundation of England's commercial stability and prosperity, and require and demand the protection of the Government from vexatious annoyance quite as much as the lands and estates of the wealthy proprietors. We well remember when the costly litigations in South Wales, to which we have already referred, were being carried on and when subsequently. remember when the costly litigations in South Wales, to which we have already referred, were being carried on, and when, subsequently, proceedings were threatened to be taken against the copper works' proprietors, for non-consumption of these "noxious vapours," that crowded and enthusiastic meetings in Swansea denounced the threats, and resolutions were carried to the effect that "as the inhabitants lived by smoke, so should all works and manufactories be welcomed with open arms." We may not agree with this zeal and enthusiasm of already smoke-dried districts, but it shows the desires of those who literally live upon the prosperity of large works and manufactories. Again, it should not be forgotten that many thousands of pounds have been voluntarily expended by works' proprietors to abate the deleterious effects of these "noxious vapours." They acknowledge the evils almost inseparable from their business, and cheerfully test, at the cost of hundreds and thousands of pounds, the many mechanical and scientific appliances which are said to and encertainy test, at the cost of numerous and thousands or pounds, the many mechanical and scientific appliances which are said to prove the desired panacea. In all justice and honesty these things should be remembered and appreciated by the Royal Commissioners while making their enquiry. We fully recognise the rights of the landed proprietors and agriculturists—rights which will always be somewhat antagonistic to those of the manufacturer and smelter, but we trust the landed proprietor will not push his rights and claims so far beyond legitimate limits as to become the source of vexations appropriates. The proprietors of layers smelting works and manufacture manufactures. so far beyond regittinate limits as to become the source of vexatious annoyance. The proprietors of large smelting works and manufactures have hitherto practically proved that they do all they can to prevent any evil effects arising from the "noxious vapours" of their works, and if the means adopted have not proved efficacious the fault is that of the mechanic dengineer or chemistrather than the manufacturer. As the Royal Commission upon the evil effects of "noxious vapours" has been chiefly instigated by landed proprietors, the onus probabilities is used to be a show that the manufacturers have been probandi rests upon them to show that the manufacturers have been reluctant or neglectful to carry out every known means to remedy the cause of complaint. In all fairness, too, they should point out the mechanical or scientific appliances to be adopted, and if such were done we have no hesitation in saying they would be heartily welcomed by the manufacturing world generally, and quickly put to the practical test.

ENGLAND'S COMMERCIAL POLICY, AND THE WAR PROSPECTS.

At such a dull time as that through which we are now passing it At such a dull time as that through which we are now passing it is important that we should not either lose faith in our commercial principles or in the fact that nothing is happening to us which might not have been forecast by a thoughtful observance of the past. There is, unhappily, a disposition here and there appearing to make reprisals upon foreign countries who are commercially exclusive. Of this we have indications in certain crude suggestions to make reprisals upon foreign countries who are commercially exclusive. Of this we have indications in certain crude suggestions coming from Sheffleld, as well as in vive voce utterances upon 'Change in the coal and iron centres, with which every frequenter of those places has been made familiar. Such views may have been "condemned," as Mr. Gladstone phrases it, "by all the greatest authorities amongst Englishmen of the past and the present generation;" but it is well when that condemnation is brought home to us under circumstances amply appreciable by men of varied mental power who are accustomed to deal with or linary figures, and to spend most of their time in business pursuits that do not leave much room for the consultation of such authorities as those with which so great a statesman as the ex-Premier may well be familiar. The other day, in Liverpool, Mr. G. J. SHAW LEFEVRE, M.P., re-

The other day, in Liverpool, Mr. G. J. SHAW LEFEVRE, M.P., reviewed the state of trade in this country. In doing so he reminded us of facts which just now ought not to be allowed to escape our recollection. He would have us bear in mind that it was not more than seven years since this country was passing through a period of even more severe symptoms than those which are now experienced. The years of 1868, 1869, and 1870 were years of commercial distress. Great numbers of working men were unemployed. Pauperism had increased in an ominous manner. We were under much alarm about the future of our manufactures. It was said that we were in danger of losing our foreign markets, and that even our home markets were the future of our manufactures. It was said that we were in danger of losing our foreign markets, and that even our home markets were being invaded by foreign manufactures in those very trades in which we believed ourselves to be unapproachable. Two members of the pre-ent Ministry tried hard to obtain Government assistance to British artizans who were emigrating, and then, as now, existing commercial treaties were impugned because of the absence of "reciprocity." Even one of the members for Manchester, together with the member at the time for Coventry, attacked on this principle the French Treaty. The arguments which were then used are being used now, and they show how imperfectly understood are the principles of free trade by large sections of British traders, and how easy it is when trade is bad for even intelligent persons to abandon sound doctrines, and to relapse into errors of the most serious kind. Need it be cited how the three years of great distress ending with 1870 were followed by a rebound of prosperity which brought in three years during which the trade of Englandex panded enormously. Our export trade by 30 per cent. Trade profits were excellent; wages rose almost universally. How the coal trade benefited for the time all our readers know. That prosperity has passed; it has given way to a condition of things in which we see that prices of coal have fallen to almost those of 1871, the money wages of minerabeing reduced in almost corresponding ratio. Mr. Lefevre is largely right when he says that we are now suffering in great part from the reaction after the presentive of those years from the recoal have fallen to almost those or 1871, the money wages of miners being reduced in almost corresponding ratio. Mr. Lefevre is largely right when he says that we are now suffering in great part from the reaction after the prosperity of those years from the results of the speculative mania induced by it, from concurrent action of the same kind in the United States, and in part also from the repudiation of their debts by so many foreign States, who, while they were borrowers of our money, were also consumers of our productions, and who, now that they have ceased to borrow, have ceased to have our manufactures. With chear coal with abundant conits. With cheap coal, with abundant capital. to buy our manufactures. to buy our manufactures. With cheap coal, with abundant capital, with moderate wages, with longer hours, and some more consideration by workmen for the interests of their employers, we may reasonably hope soon to get again into a condition of business activity, however considerable may be the foreign competition to which we may be exposed. Certain of these conditions have been attained. The sooner the rest are within our reach the better alike for labour and conjust.

Nor should our faith in the principles which enable us so quickly to regain vigour, or our confidence in the early future be lessened by the existing unhappy state of things in Eastern Europe. For it is noteworthy that on many former occasions the anticipations of war have proved more disturbing to trade than its actual occurrence; and that shortly after the outbreak has really occurred has revived rapidly. A great war always sets vast expenditure, and quickens the circulation of money and the exchange of commodities, not only in the centres where it is being waged, but also in others, which may be called upon to supply merchandise to the field of conflict. It often happens, too, that new channels of trade are opened out as the direct result of hostilities on a great scale. In the present instance the extent of the disturbwhich may arise to trade if the war should become a great one will depend upon the number and importance of the powers who take part init. Ironmasters will remember how great was the demand for their products during the Crimean war. It is within our experience that some ir making firms in this country were not more busy, and were certainly less prosperous, during the three years of trading activity which followed upon the close of the Franco-German war.

Then, we all know that a time of wars and rumours of wars is one animal and vegetable life, and which it must be to the interests of one and all to privent as far as possible.

Whilst, therefore, fully recognising the value and importance of the enquiry which the Royal Commissioners have just undertaken, and even welcoming it in the interests of all, something should also be said from the manufacturing point of view. We are informed that several influential landed proprietors have subscribed to a fund for the purpose of securing a thoroughly sifting and exhaustive enquiry. We need hardly say that we hope and believe the Royal

owners and ironmasters would do well to abide by the principles and the experiences of the past, and to allow no pessimist views to induce them to sigh for the onions and the garlic of Protection.

THICK COAL SEAMS.

THICK COAL SEAMS.

It appears that in some parts of Europe there are seams of call far thicker than those found in any part of Great Britain. The far thicker than those found in any part of Great Britain. The was nearly as thick as any known. But this is not really so. In the south-western part of Poland there is a bed 16 yards thick, which the south-western part of Poland there is a bed 16 yards thick, which Mr. Hull says is probably the thickest bed of mineral fuel in Europe, brows, but giving only 50-38 of carbon. In Moravia, where some of the pits are worked by Baron Rothschild, there is one seam (the Adolph-Fiötz) 25 ft. in thickness, and is included in the upper carboniferous series. But all these are greatly exceeded by some of the Northern Bohemian Collieries according to the report sent to the members of the Northern Bohemian Collieries Company. It is written by Mr. J. W. Lukis, managing director of Powell's Lumwit Collieries, and who before joining the Northern Bohemian Company visited the property, and the brown coal fields of Bohemia. At the Marischein, near Teplitz, he says the seam is from 30 to 40 ft, thick, the shaft being 188 yards deep. The Holtzchitz pits leased by the company from a Mr. Eaton the seam is known to be about 50 ft, thickness. Mr. Lukis states that he was unable to descend it, but he visited Baron Erlanger's colliery working the same seam close by. The foreman told him that they had bored down below the 50 ft. of coal they were working, and with the exception of a small band of clay of a few inches the coal bed was found to be 105 ft, thick, so that the conclusion is that the same seam will be found at the pits of the company. If this is really the case then Bahenia, and as labour is cheap it ought to be worked at a remarkably good profit. Some of the workings it appears are open, and worked like large quarries. The coal is brought down by simply driving three or four adits into the coal at the bottom of the seam, which are united at the end by a cross-level; dynamite is then em most valuable one indeed—far more so than people have generally given it credit for.

COAL MINING IN THE NORTH.

[FROM A CORRESPONDENT.]

The new winning at Whitburn so far has proved a failure, two shafts were sunk at a point near the sea—much too near the sea as it has proved to be as, after incurring great expense and eracting pumping power on a larger scale than was ever before attempted upwards of 10,000 gallons of water per minute having been raised, it was found impossible to get more than about 30 fms. down from the surfacts, for the present, the works have been abandoned. When shafts are so far sunk in the limestone, and this limestone has been proved to be at this point about 70 fms. in thickness, and below the limestone, where the sand ought to be, there is little, if any, sand—it is, indeed, stated that whim has been found at a short distunce below the limestone.

This is the first attempt to sink through the limestone so near the sea on this coast. Monkwearmouth, Ryhope, and Silvsworth are all at a considerable distance from the sea. Little water was met with at the two latter places, but a considerable quantity at Monkwearmouth—of cour e trifling as compared with the quantity met with at Whitburn. There is little doubt that the water from the seapassed into those shafts, as the limestone is of a very open porous nature, and large crannies or fissures also exist in it. When the enginers were working, and the water was about "forked," the water was strongly impregnated with salt; further, the water rose higher in the shaft, and was more difficult to get down at the time of highwater on the sea. We have, therefore, sufficient grounds for the assertion that the sea was connected by means of open fissures with those ill-fated shafts. The open nature of the limestone on this coast is a remarkable feature, and it appears to be a local feature; at any rate, we have observed shafts sunk through limestone in This is the first attempt to sink through the limestone so non at any rate, we have observed shafts sunk through limestone in the South of England where the strata were quite dry, and the limestone beds were so close that no water of consequence wall pass. Some of your readers will be able to tell us what are thegone ral characteristics of the limestone beds in other localities. It is to be hoped that this very expensive lesson at Whitburn will not be lost sight of; there is no doubt that shafts will be got down their sunk at a safe distance from the sea. On the West Coast of Engsunk at a safe distance from the sea. On the West Coast of Educated hand shafts have been sunk without difficulty much nearer the than the Whitburn shafts, but in those cases there was no lines to but only a slight patch of close red sandstone, and below the sha of the coal measures, quite impervious to water.

SOUTH AMERICAN PROSPECTS.

SOUTH AMERICAN PROSPECTS.

The British public have sadly lost confidence of late in the stability and good faith of almost every one of the States of Suth America. This year has witnessed two events of considerable gravity—the defaults of the Republics of Peru and Uruquay, and even such Governments as those of Brazil having recede to alithe over 90, while those of Chili have sunk to 80. Argentine credit has also been rudely staken, the Six per Cent. Loan of the Argentine Republic of 1871 only commanding the very indifferent quotation of 42 or 44. As for the securities of such States as Bolivia, Costa Rica, Ecuador, Honduras, Mexico, Paraguay, and Venezuela, what shall we say of them? What but that they are a scandal and a blot on modern civilization in respect of their shameful treatment of their foreign creditors, the bulk of whom are unfortunately Englishmen. One other circumstance which tells against the communities of South America, in addition to what we are afraid must be termed their general discredit, is the apparent unsuitability of their climates. South America, in addition to what we are afraid must be terme their general discredit, is the apparent unsuitability of their climater European immigrants. This would seem to be a very serior difficulty indeed, since the European immigrant is, after all, the main stay of such communities as New Z-aland, Victoria, New South Wales, and the vast Republic of the United States. A third difficulty in connection with colonisation in South America is the unsettled and revolutionary character of the South American Gorden ments, so called. The vicisitudes of South American politics for unsettled and revolutionary character of the South American Gorenments, so called. The vicissitudes of South American polities for a long series of years have been very great and rapid; and, as South American politicians have an awkward knack of settling their differences by a resort to a brisk fusillade, there has been in may parts of South American and insecurity of life and property; and we fear we must add, if we wish to be truthful, that this insecurity still exists. All these circumstances, taken together, sadly relating the progress of South American countries, and check the investment of foreign capital in them. The great difficulty of South American is, however, the political difficulty. If the Governments of South America were only a little more stable, and a little more houst, all might yet be well with South American interests, but unfortunately the bulk of the public administrations of South America are reck-

In dealing with the drawbacks which returd the material adsof South America we omitte! to say anything of the general set ness of the population. The obscure but none the less share wars, which have been too often waged in South America, have rather seriously mean the action was wars, which have been too often waged in South America, and it free has been littly or no immigration from Europe, the waste of life which has occur has not been made good. The result is that most of the rallway which have been thus far attempted in South America have been financial failures. We must except from this remark the San Paul

1876.

principle

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seam close helow the ofa found at n Bohemia, coal known, coal known, kably good worked like riving three , which are amployed to hundreds of covering of from which ort is correct Sohemia is a

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the Brazilian treasury in respect of its guarantee. But the San Paulo the Brazilian treasury in respect of its guarantee. For the most part has been quite an exception to the general rule. For the most part has been quite an exception to the general rule. For the most part has been quite an exception to the general rule. For the most part has been quite an exception that they have not only disheartened investors, but appointments that they have not only disheartened investors, but suppointments that they have not only disheartened investors, but suppointments that they have now to South America. With good little of our railway income and advance, although they can never do espected to make a gradual advance, although they can never do espected to make a gradual advance, although they can never do espected to make a gradual advance, although they can never do espected to make a gradual advance, although they can never do espected to make a gradual advance, although require railways to enable their natural resources to be viously require railways are not very likely to be made so opened out, and these railways are not very likely to be made so opened out, and these railways are not very likely to be made so opened out, and these railways are not very likely to be made so opened out, and these railways are not very likely to be made so opened out, and these railways are not very likely to be made so opened out, and these railways are not very likely to be made so opened out, and these railways are not very likely to be made so opened out, and these railways are not very likely to be made so opened out, and these railways are not very likely to be made so opened out, and these railways are not very likely to be made so opened out, and these railways are not very likely to be made so opened out, and these railways to establish and the securities and the securities and like rail and the securities are contact. The contact are contact and the securities are contact and the securities are contact and the securities are

THE CONTINUED INACTIVITY OF JOINT-STOCK ENTERPRISE,—
There is still a continued absence of joint-stock enterprise, and the combination principle seems, if not dead, to be having an usually combined sleep. As a matter of course the bare possibility of war is quite enough to stamp out any contemplated revival, and while is the Eastern problem remains unsolved no improvement can be looked for. Indications are not wanting, however, of impatience on the part of investors at the almost entire absence of new changles for investment, for people are rapidly becoming weary of keeping their money on deposit or in a stocking. Should a peaceful solution of the all-absorbing Eastern difficulty be arrived at, a spurt will be given to commerce generally, and the development of new enterprise will follow as a matter of course. The new projects rejeter lare now at their minimum number since 1866; but there are several important mining and other ventures awaiting a favourable tide prior to being launchel, and unless the dis organisation consequentupon wars sets in, there will be considerably more activity mones to promoters before long. THE CONTINUED INACTIVITY OF JOINT-STOCK ENTERPRISE. rnongst promoters before long.

Gold Fields of Victoria.—The Mining Department of the elony of Victoria estimate that 249,822 ozs. of gold were obtained in the second quarter of the year 1876, as much as 155,357 ozs. being quarte gold. The number of miners at work averaged 42,453, of whom 11,138 were Chinamen. The returns continue to show that mining is gradually being carried on at greater depths in all parts of the colony. There were at the end of the June quarter twelve salts of mining companies sunk to depths of over 1000 ft., seven of them being at Stawell, three at Sandhurst, and two at Clunes. The deepest shafts in the colony were the Newington, at Stawell. If31 ft., and the Magdala, at Stawell, 1706 ft. A reef was discreted by the Magdala Company a year ago at about that level, but was a long time before a trial crushing of the stone, sufficient test its value, was completed; the result is found to be that the atit was a long time before a trial crushing of the stone, same entates its value, was completed; the result is found to be that the home is not paying. A new reef has since been discovered by that suppay, and much interest is excited upon the question whether twill pay. Payable stone has not, thus far, been found in Victoria

GOL IN IDIA.—From Bombay (Oct. 2) we learn that the out-put file East India Railway Company's collieries is now nearly 800 tons of the nether largest turn out of any mines in either the Damuda or largest districts, and for that matter, in India. The requirements the company's lines do not exceel 400 tons a day, or about hulf the raisings, so that the shareholders may congratulate themselves a having and lditional source of income, besides obtaining their coal trarily one-eighth the cost of most of the other In tian railways, which is not income and extent of the workings may be designed from the fact that the totel number of hands engage 1 above of fron the fact that the tot I number of hands engage I above netro the fact that the total number of name engage i above able ow ground varies from 3000 to 4000, and that there are about 30 lafts in operation, averaging over 100 ft. in depth, besides out-crop assess. The collicies are worked by an efficient European staff, after the management of Mr. I. J. Whitty, C.E., resident engineer.

COAL AND IRON IN THE UNITED STATES,-The rolling-mills of Oal and Iron in the United States.—The rolling-mills of lame, Georgia, which were doing nothing six months since, are now ranning night and day. The total production of anthracite calin Pennsylvania to Sept. 30 this year amounted to 12,817,351 tas, as compared with 14,614,821 tons in the corresponding period (1875, showing a decrease of 2,127,470 tons this year. The production of bituminous coal in Pennsylvania to Sept. 30 this year was 2,658,602 tons, against 2,933,057 tons in the corresponding pendid (1875, showing a decrease of 274,365 tons this year. The agreement of the pennsylvania to Sept. 30 this year was 13,140,043 tons, against 17,517,878 tons in the corresponding period of 1875, showing a decrease of 2,401,835 tons this year. The quantum of the pennsylvania to Sept. 30 this year was 14,140,140 tons, against 17,517,878 tons in the corresponding period of 1875, showing a decrease of 2,401,835 tons this year. The quantum of the pennsylvania to Sept. 30 this year. of 1875, showing a decrease of 2,401,835 tons this year. The quantity of coal and coke carried over the Pennsylvania Rullroad to Sept. 31 this year was 3,249,955 tons, of which 2,600,676 tons were nl. The vice-president of the Northern Pacific Railroad Company is just presented an encouraging report on the coal owned by that impany near Puget Sound.

THE WELSH ESTATES OF SIR EDMUND BUCKLEY, BART., M.P. The jaragraph which has appeared in several papers gives an errogus report of the result of the sale of the above estates. We are allowed that the Eynant estate in Montgomeryshire sold for 49,000%, witing a total of 133,500%. Lots I and 2 of the Mawddwy e tate, the principle of the Mawddwy e tate, and the principle of the Mawddwy e tate, and the principle of the Mawddwy e tate, the principle of the Mawddwy e tate, the principle of the Mawddwy e tate, and the principle of the Mawddwy e tate, and the principle of the Mawddwy e tate, the principle of the Mawddwy

TRADE OF THE TYNE AND WEAR.

TRADE OF THE TYNE AND WEAR.

Od. 26.—The shipment of coal continues large, and the demand insteam, gas, and house coals continues to improve. At the Tyne let, and other points on both rivers, the quantity of coal shipped let, and other points on both rivers, the quantity of coal shipped let, and time—say, one week—has exceeded the quantity of the trades till do not prosper; the demand for all second-class led, for manufacturing coels, and coke is far from satisfactory, list, of course, entirely owing to the dull state of the home trade at list, in the stagn and state of the home trade at list, in the stagn and state they are in at present for many years, believing at present, and no doubt if the war now ragin; should estended, and any of the great powers become involved in it, an impulse would be given to the steam coal trade. The engineering is would be given to the steam coal trade. The engineering as remarked above, are in a very depressed state, and the fives are also dull. The iron shipbuilding trade appears fove sterdily, and the demand for plates at present is good. market at Middlesborough, on Tuesday, was well attended, mass was not so brisk as of late, the uneasiness owing to billty of an outbreak of war on a large scale in the East a sumewhat depressing effect. There is, notwithstanding, y delivery of nigrigon, though prices are seawalk as good. delivery of pig-iron, though prices are scarcely so good, ine from the advance of two or three weeks since having openred. The demand for foundry iron has been fairly and delivery the standard three products of the standard three products and delivery three products and delivery three products are standard to the standard three products are standard three products are standard to the standard three products are standard three products are standard to the sta peared. The demand for foundry from has been independent, and deliveries for shipment have been steadily made, ries in the North of England have also been absorbing the manufacture and general work. Though the rail mills little, some of the other manufactured iron branches have er, which has kept puddling furnaces at work to a larger an in the summer, and, therefore, caused an increased con of forge iron. The prices of manufactured iron do not be in the control of the control than in the summer, and, therefore, caused from the summer, and, therefore, caused from the fore, income force income force income force income from the existence in and bars being steadily maintained. The Board of Arbitrated bars being steadily maintained. The Board of Arbitrated bars being steadily maintained from trade at a rather serious question engaging its attention in connecting a rather serious question engaging its attention in connecting a strike some time since against the authority of the latthe Moor Ironworks, Stockton. Hopes, however, are entitled to the force of the f

tertained that the difficulty will be got over, and the board, which has been such a useful institution, maintained. The market at the close was not so strong as at the opening, and some considered that there was 6d. per ton refuction. Quotations are—No. 1, 50s. to 50s. 6d.; No. 3, 46s. to 46s. 6d.; No. 4 forge, 43s. to 43s. 6d., less

REPORT FROM CORNWALL.

-Frightened by the panic, the smelters ended in a few hours Oct. 26.—Frightened by the panic, the smelters ended in a few hours that which they had taken days to consider. The panic has passed; the share market prices have returned to well nigh their normal condition, but the tin standards remain in the position to which they were so hastily consigned. There is no help for it as things are; the mines are in the hands of the smelters, and must take what those gentlemen offer, but assuredly if ever there was a time when holding on seemed likely to repay it is the present. All the hopeful conditions which specially affect the tin market remain unchanged, and one can hardly conceive what will prevent the hopes that have so long been entertained being speedily realised.

After what was said by Sir Frederick Williams, M.P., at the Dolcoath account it will hardly be possible, we imagine, for anyone to

After what was said by Sir Frederick williams, M.P., at the Dolcoath account it will hardly be possible, we imagine, for anyone to
question the success of the Barrow borer. There have up to the
present time been those who have persistently made it their business to doubt the reports which have been made about the borer, and
who have cavilled concerning almost every statement made about it.
Nobody now can deny, with any pretence of reality, that the borer
has had a full and fair trial, and what is the result? It is driving
at the present moment three times as feat as band labour. In the has had a full and fair trial, and what is the result? It is driving at the present moment three times as fast as hand labour. In the 302 fm. level the very best pare of men in the mine have during 12 months driven on an average 9 ft. 10 in. per month. The Barrow borer in the 314 fm. level, in ground of equal hardness, has driven in a month 5 fms. 4 ft. 7 in., which is really 3½ times as fast. In the 326, east and west, the ends are hardly advancing, the men doing their best, 8 ft. a month. The boring-machine will do from 4 to 5 fathoms. Thus the problem has been solved, and to the individual enterprise of Dolcoath, the pluck of its adventurers, and the skill of its managers the credit of having solved it belongs. No doubt, as time goes on, there will be other solutions with other machines; meanwhile the Barrow has solved it here. And we learn another very important point. This increased speed, so vital to the interests of mining, is obtained economically. If three or four machines are worked the experience already gained warrants the assertion that they may be worked at very little additional expense as compared with hand labour, and probably even less. Then there is a subsidiary, but still valuable, benefit in the fact that the use of compressed air to work the borers reduces the temperature of the levels in which air to work the borers reduces the temperature of the levels in which they are worked 10° to 15°. No vote of thanks was ever better de-served than that which the adventurers passed to Captain Thomas

Though a strike has been threatened in connection with the Union Though a strike has been threatened in connection with the Union of china-clay workers, it is hardly likely that it will take effect. The times are very dull in the clay trade just now, yet notices have been issued by some of the leading clay merchants that they do not intend to reduce wages. There have been, it is true, and necesarily, some discharges, but they are not aimed against members of the society. There may be a breach, but it must be of the unionists own making, and if they strike they will do so with the full knowledge that the action is theirs and theirs only, and that while their belonging to the Union will not lead to their discharge, it is very doubtful, to say the least, whether any unionist who strikes will ever be taken on again. will ever be taken on again. -

very doubtful, to say the least, whether any unionist who strikes will ever be taken on again.

DYNAMITE.—While testimony has been fully given to the success of the Barrow boring machine, proof has also been given recently of the superiority of dynamite as an explosive. Both at West Frances and Dolcoath meetings Capt. Josiah Thomas spoke of its advantages, and it was elicited as a fact that dynamite was used solely by those working the boring machine, which may, to some extent, account for the amount of work done. At the Dolcoath meeting Mr. Cunnack, who is the agent of the new explosive, tonite, threwout a challange to work a close end in Dolcoath month for month with tonite and dynamite, and if the former did not do its work better than the latter he would give all the tonite used for nothing. The challenge was immediately ascepted by Capt. Charles Thomas, the agent of the British Dynamite Company. Capt. Josiah Thomas agreed to give the opportunity of carrying the trial out, the result of which will be interesting and instructive. Mr. Cunnack laid great stress on the poisonous furnes coming from dynamite, but it is contended on the other hand that if properly used there will be little furnes from dynamite, and it is said also that tonite is not without its special objections. Two great points to be assocratined are which is the most safe and coonomical. Yery strong testimony has been given as to the economy and safety of dynamite by Mr. Hockin, the Chairman of the St. John del Rey Mining Company. At the meeting in June last he said that while the extra cost of dyn minite at their mine, as computed with gampo wder, was 911. a month, the saving in labour by the use of the former was 2721 a month, or a difference in favour of dynamite of 2722. per annum. This is a matter, therefore, of considerable importante to our mines, and a fair and full trial should be given to explosives. It is haven for the use of explosives. It is most important, too, that our miners should strictly attend to the instructions issued for

REPORT FROM NORTH AND SOUTH STAFFORDSHIRE.

Oct. 26.—Heavy quantities of foreign pigs continue to arrive in South Staffordshire, where they are largely going into stock; for, excepting at the mills and forges, where A I finished iron is being produced, only partial employment can be afforded for the finished iron hands. Prices for all but the best bars show weakness at date, though the concessions of makers are but slight. Native pig-iron of best qualities is strong, and the stocks in hand are being reduced only slowly. The collieries are only partially employed, yet the workpeople at the pits are displaying much restlessness, inciting their employers to put up prices. At their request a meeting of representative masters and men seems likely to be held. It may be hoped that at such a meeting the men will be convinced that such a course would be impolitic. Much of the difficulty has arisen out of the fact that the prices of Cannock Chase house coal has been put up 1s, per ton without any advance of wages being conceded to the men. Previously, however, the masters reduced coal 1s, per ton without at the same time reducing men's wages. The wages arrangement at Cannock Chase makes an alteration in wages to depend upon a rise or drop of 2s, per ton in coal. The period to which that agreement extends is Christmas next.

Sundwell Park Colliery shares continue to chanze hunds, buyers Oct. 26 .-- Heavy quantities of foreign pigs continue to arrive in

Sindwell Park Colliery shares continue to change him is, buyers still being prepared to give 24t for the 10t paid up shares. The advance in copper is affecting favourably the shares of Miniz's Metal advance in copper is affecting favourably the shares of Muntz's Metal Company, which are steadily rising. The 10L shares, on which 5L 10s, has been paid, have change 1 hands at $2\frac{3}{3}$ premium, and the 20L shares of the Patent Shaft and Axletree Company, with 10L paid,

20% shares of the Patent Shaft and Axletree Company, with 10% paid, have been done at a premium of 13.

Mr. J. P. Buker, the Government Inspector of Mines in this district, continues with Mr. Scott, his assistant, to do his best to secure an observance of the conditions of the Mines Regulation Act. In June last a workman was below at one of the pits of the Leabrook Colliery, Wednesbury, and desired to ascend. This was known above, and the cage was set in motion before the workman was in it. He signalled for the cage to be relowered, it was suddenly droppel without the return signal having been given, and the workman being beneath it at the time was killed. For neglecting to give the stipulated signals the breaksman and the engineman were on Monday brought by the Government officers before the magistrates

give the stipulated signals the breaksman and the engineman were on Monday brought by the Government officers before the magistrates at Willenhall, and twere each fined 20st, and costs.

The Chamber of Compares of Wolverhampton have just memorialised Earl Dorby to use the indusence of the British Foreign Office to prevent what it is feared may amount to a confiscation of property belonging to English merchants. It would seem that the

Government of Columbia has something like a rebellious subject in Government of Columbia has something like a rebellious subject in the State of Antiquia. As one of the means of bringing it to terms Columbia has issued an order to the Custom House authorities at Saranilla to detain all goods intended for the disaffected State. Comprehended within this order are goods which were shipped at a time when the country was in profound peace. That fact is regarded as sufficiently justifying the appeal of the Chamber to the Foreign Office, who are desired to interpose by telegram lest the goods should be sold, for such a step seems more than possible.

Pig-iron in North Staffordshire shows a tendency to strengthen, for stocks are decreasing. In the finished iron branch, however, prices are, of the two, less strong. To get orders for plates makers would accept very low rates. There is less yielding in the bar branch, as to which the demand is enough to keep the mills running from eight to ten turns.

orance, as to which the detailed to the from eight to ten turns.

Sandwell Park Colliery.—Mr. Daniel Jones, of Albrighton, writing to the Iron and Coal Trades Review, says—During the past four or five years a question of the greatest geological interest has been debated in relation to the extension of the South Staffordshire writing to the from and Coal Trades Review, says—During the fast four or five years a question of the greatest geological interest has been debated in relation to the extension of the South Staffordshire coal field to the east. The geologists, who derive their information from the records of facts gleaned by other and more practical men, based their views upon the most authentic accounts obtainable—Prof. Jukes's statements in the Records of the School of Mines, wherein he arrives at the conclusion that a bank of Silurian rocks so far obtruded themselves towards the east of the coal field as to be above the level of the productive coal measures, and so to prevent their being formed in the area occupied by it. This seems to be strongly supported by pit sections to the south along the eastern boundary of the coal field. The whole details of the evidence upon which this theory was founded by Prof. Jukes were furnished to him by Mr. Johnson, of Dudley, the present mining engineer of the Sandwell Park Colliery, to whom everyone must be willing to accord praise for the energy and skill with which he has caused the new shafts to be sunk and the workings to be developed which have now dispersed a greatfallacy regarding this silurian bank, and it is only with the object of enlightening the geological world upon the misguiding evidence contained in the R-cords of the School of Mines that I contribute this letter. Mr. Johnson has had the candour and zeal for scientific truth to make the following statement in an address to members of the Dadley and Midland Geological Society, when they visited Sandwell Park Colliery, on Sept. 12. He said—"In 1848 I began to make enquiries concerning the prospect of finding coal to the east beneath the red rocks, and at that time became the manager of the famour Heath Pit of the Earl of Dartmoth, which was sunk in 1832 at a cost of 30,000%, and was the first pit to penetrate the red rocks in South Staffordshire; and viewing it as what I considered to be a "one-eyed pit," from the fact that they told me, and from all that I heard came to the conclusion that the coals were cut off in that direction, and communicated what I heard to Prof. Jukes, then engaged in his survey of South Staffordshire, and he recorded it in his R cords of the School of Mines. But I afterwards found the representation to me on the subject to be wrong, and communicated my views to others, and as coal got scarce I came to the conclusion that the time had arrived for making the experiment upon which my mind had been set." Let it, therefore, be well understood that one of the most important deductions arrived at by Prof. Jukes in his work is based upon erroneous information, and that in any subsequent edition of his work the whole account, with the conclusions derived from it, must be expunged. It has already misguided many geologists, myself amongst punged. It has already misguided many geologists, myself amongst the rest, and I think it most desirable that this should now be known. If, in addition to his other services to the cause, Mr. Johnson would publish the details of the Sandwell Park section, he would receive the grat tude of many fellow-geologists.

WITLEY COLLIERY, NEAR CRADLEY.—The new sinkings of this colliery, which were commenced in March last year, have been much impeded by an unusual quantity of surface water. The shafts have had to be forced for a distance of 50 yards through a blue san Istone rock, which yielded water to an extent of 500 gailons per minute, and a terrible task his been experienced in keeping it at bay during the prosecution of the work. Two 10 in, pumps have had to be kept in constant operation at the rate of 20 strokes per minute during 15 months of the time the sinkings have been in operation. We learn, however, that the water is now securely coffered out, or, as some phrase it, "tubbed back," and that the sinkings are now ready to be resumed in the dry. It has been necessary to put in 40 yards of coffering in each pit, which consists of solid masonry 24 inches thick, every brick being carefully set in a preparation of cement and Leiester lime. This is, we believe, thought to be of sufficient strength and durability to keep the water back for a century of time. There is no doubt whatever about the water having been fed by the Lutley Mill and Drew's Forge pools. The company, we are informed, have had the water kept out of the latter for some time at considerable cost, and the effect has been to reduce the number of revolutions of the pumps eight per minute, thus confirming the opinion we expressed six months ago that the water in these pools was the feeding source of the water enountered in the sinkings. Now, however, that the water difficulty is at an end there is nothing, we are assured, to prevent the sinkings going on with vigour and rapidity; and if all goes well the company are sanguine of reaching the thick coal in seven ments time. The new plant, consisting of a splendid pair of 25 in, cylinder engines, are at work, and will greatly facilitate the shikings. Great credit is due to the company and their engineers for the energy and courage displayed in the prosecution of the work under the peculiar disadvantages they have h WITLEY COLLIERY, NEAR CRADLEY .- The new sinkings of this

REPORT FROM SOUTH DURHAM AND CLEVELAND.

Oct. 25.-It is satisfactory to note that there are signs both in the centre and the northern ironmaking district, and also at some of the detached portions, which indicate a belief that the worst has been known so far as the present crisis in the Iron Trade is con-cerned. In none of the isolated portions of the district has the decerned. In none of the isolated portions of the district in which the iron-pression been more marked than in the district in which the iron-trade of Cleveland commenced—around Grosmont, where, long prior to the Eston discovery, iron mining was carried on on an extensive scale. During last year and the early part of this, however, the trade dwindled down to a bare existence; the shipments of ore ceased almost entirely from the adjacent port, the blast-furnaces at Glaisdale were blown out, and the mines closed, and later on the furnaces at Grosmont were also rendered incorrative, but the mines chaistale were blown out, and the mines closed, and later on the furnaces at Grosmont were also rendered inoperative, but the mines at the last-named place were carried on although on a lesser scale. This centre, historically associated with the labours of the Bswicks and Bagnalls to develope the Cleveland trade, now feels apparently the approach of returning animation. During the last few months the older furnaces at Grosmont have been raised in height, and two of them are now put into blast, the last of these within a few days; the third is being regimed. There is necessarily more demand for the third is being re-lined. There is necessarily more demand for ironstone, with a better prospect for the contributory local mines; but at Glaisdale the prospect is as yet unrelieved. The three furnaces there are still out, and the fourth, which was in course of erection, still stands an unfinished monument. The mines are, of course, closed, and the same state of affairs prevails at one or two others in the Eskdale district, and there is as yet no resumption of shipments to the Tyne. And as there has been some amount of ironstone stocked during the early part of the year, there is no probability that there will be any speedy accession to either the mines working or the number of men employed in the district, the output of which is now much reduced below its normal quantity. Thus, although there is, as hinted, a prospect, the increased brightness of which is ind cated by re-lighting the furnaces, yet at present it has only been sufficient to show the extent of the gloom that surroun led the past. It is clearly also to note that at some of the older nines in the

It is cheering also to note that at some of the older mines in the centre of the ironstone district an increased output is being made. Thus, at South Skelton recently over 11,000 tous have been drawn in a single week from one shaft. As, during the latest year to which the "Mineral Statistics" are officially brought, the output of these mines was rather under 4000 tons weekly, the extent of the increase is approximately the property. is apparent. It must not be supposed, however, that this increase betokens a general increase or an enlarged output. The contrary is the case at present, for in almost every instance any increase from one mine is merely a local accompaniment of a general decrease

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and it will be found that in the instance referred to the increased and it will be found that in the instance reserved to the interest of the interest of production is accompanied by no increased production of pig-iron by its owners, but is merely a result of the diversion of the supply of ironstone into one channel. At the same time, there is now a reduced output in other quarters to a full corresponding extent, and in some cases there is a stocking of ironstone—in the Eston district to a very large extent.

There is little change in the Coal Trade. The shipments continue are restricted but this is usual at this season, and the number of coal-

There is little change in the Coal Trade. The shipments continue very active, but this is usual at this season, and the number of coalladen vessels leaving the north-eastern ports is not very considerably above that generally known towards the close of the shipping season. A little better demand is known for manufacturing coal, but it is far below that generally experienced at this season. At present the southern part of the district seems to have experienced a greater rise in the demand than the north, although for gas coal there is now a good enquiry. But the great lack in the demand is for small coal, which is almost completely a drug in the market.

An addition to the railway accommodation of the mining district of Cleveland is always of importance, and this, though on a small scale, is about to be commenced. Tenders for the construction of an additional portion of the Whitby, Redcar, and Middlesborough junction line are now before the directors of the North-Eastern Railway, and it is probable that a commencement will soon be made with that portion from the present northern terminus at Lofts to

way, and it is probable that a commencement will soon be made with that portion from the present northern terminus at Loftus to near Easington. The distance is not great, but it will afford facilities when needed for the opening out of a new royalty of ironstone, as well as bringing nearer the period when the whole of the territory from Whitby to Loftus will be opened. This coast tract is that in which the very earliest cargoes of ironstone were worked in Cleveland, after a few score tons of the rich nodular ore had attracted the

land, after a few score tons of the rich nodular ore had attracted the attention of the Tyne ironmasters of that day. And as, with one exception, it is an unbroken field, it is probable that in the future it will largely add to the output of this great natural basin.

No reply has as yet been received by the associated mineral trades to their request for a lowering of the rates of carriage on minerals to the level known prior to 1871 on the North-Eastern Railway, but it is scarcely expected that it will be favourable. It has transpired that on one part of the company's system the closing of mines and blast-furnaces has lessened the traffic receipts of that local district by over 20 per cent., and in another part a loss as great has only been met by the increase of other traffics. In the face of these facts a full reduction is improbable, but there are now signs of an improvea full reduction is improbable, but there are now signs of an improve-ment in the traffic receipts.

REPORT FROM NORTH WALES.

REPORT FROM NORTH WALES.

Oct. 25.—The Coal Trade of this district remains in much the same condition, though possibly the approach of colder weather has quickened sales for house consumption somewhat. The ringleaders in the outrages recently committed at the Ruabon Coal Company's works, at Hafod-y-bwch, still remain undiscovered. At a meeting of magistrates, held last week, a committee of the local members of the Bench was formed for the purpose of investigating the whole matter. Considerable blame was thrown upon the police for not preventing the outrages, of which they say they had not the least knowledge until after they had been committed. Meanwhile the demand of the men for the allowance of half-an-hour for decending and ascending the pit, the refusal of which led to the disturbance, has been conceded, and this concession, together with the inability of the authorities to bring the ringleaders to justice, has justly created a dread of the repetition of such terrorism in the district, and the North Wales Union of Colliery Proprietors, &c., have sent a memorial to the magistrates to take steps to prevent such a repeand the North Wates choin of Contery Proprecors, etc., have sent a memorial to the magistrates to take steps to prevent such a repetition. The magistrates have retorted that they fear there is a degree of connivance on the part of some of the memorialists which helps to defeat the ends of justice. At the Bettesfield Colliery the men have struck against a proposed increase in the hours of labour, The miners at Dyliffe, who struck some weeks back against a reduction of 10 per cent. in their wages, have resumed work at the reduced rate. It has been a very trying time of late for the irontion of 10 per cent. in their wages, have resumed work at the reduced rate. It has been a very trying time of late for the ironworks of the district, most of which have worked some time past at aloss, and some of the smaller ones have been obliged to succumb. This has not been without its effect upon the limestone trade, which is one of considerable importance in North Wales, and those quarry owners who supply lime for agricultural use complain that the farmers are not using anything like the usual quantity this year. It is said that the Ifton Collieries, which were lately offered for sale by tender, still remain unsold.

REPORT FROM MONMOUTHSHIRE AND SOUTH WALES.

Oct. 26.—The position of the Iron Trade may be said to be almost unchanged since I last wrote. It is certain that there is no improvement, and matters are, if that be possible, looking a little more dreary. True it is that about 2000 tons have been forwarded to one port alone—Konigsberg—during the last week; but to find clearport alone—kongsterg—during the last week; out to indictear-ances to that extent to any one port or country even, in the short space of a week, is quite exceptional. To the quarter named scarcely any more shipments will be made this season. The Cape is still a customer to a small extent, and to Italy some few small parcels have been forwarded. It would be refreshing to chronicle a shipment as having taken place to America, but, under existing circumstances, this is too much to expect. The Transatlantic decircumstances, this is too much to expect. The Transatlantic demand has evidently gone, never to return, unless some important alteration is made in the policy which the United States now adopts with regard to her home manufacture. There is no appreciable change to note in either the bar or pig iron trade. At the steelworks business is still fairly active, although, as a rule, the full complement of men is not employed. The Tin-Plate Trade shows very little alteration, and things seem gradually going from bad to worse. As anticipated last week, the Coal Trade has exhibited more firuness than has of late been the case. Freights, too, show a tendency to rise, especially those for foreign ports. The steam coal trade is fairly brisk, and for patent fuel there is an improvement in the demand.

coal trade is fairly brisk, and for patent fuel there is an improvement in the demand.

At a meeting of colliers at Mountain Ash it was resolved to accept an offer made some time ago by Lord Aberdare to lecture on teamical education. The delegate who addressel the meeting pointed out that it would be unwise to agitate at the present time for advanced wages. The co-operative colliery question also came or, and the men who tried the system near Pontypridd were blamed by the speaker for asking for a subscription from their fellow-workmen. They should, he contended, ask for more shares to be taken. The meeting, however, passel a resolution of symputhy with the men. The question will doubtless be discussed at the forthcoming delegate meeting at Merthyr.

The strike of colliers at L'anelly continues, and there are no signs whatever of any agreement being come to.

whatever of any agreement being come to.

NEWPORT ABERCARN STEAM COAL COMPANY.—After three years Newport Abercarn Steam Coal Company.—After three years' continued sinking, the renowned "Black Vein" seam of coal, of more than 9 ft, thickness, was reached on Saturday. The coal brought to surface proves to be of excellent quality, extremely hard, perfectly clean, compact, and harder than the old Abercarn and Risca Black Vein steam coals. The company will be enabled with their already existing appliances and plant to bring this coal into the market in about a month's time. The colliery is laid out with the view of readering 1500 to some of each toy day.

Davis, Chaloner Smith, nomas Halliday, W. He

Witnesses to the signatures of the parties hereto attached—

J. W. Andrews and Alexander Dalziel.

REPORT FROM THE FOREST OF DEAN.

Oct. 27.—Since our last report there has been a little spurt in the Coal Trade, but which, we regret to add, has not been fully maintained up to present date, though we hope it is correct to say that improvement in a modified sense has so far been permanent. There is also a little better tone in the Iron Trade, though we have not any ground to speak of advanced prices. We understand St. Annall's Mine has been re-started, which, of course, implies improvement to some extent in the labour market. The Tim-Plate Trade is still under

amne has been re-started, which, of course, impress improvement to some extent in the labour market. The Tin-Plate Trade is still under a cloud, and forge and wire works are far from being fully employed. The Cinderford Sewage Works are being pushed on, and are likely to be completed within the stipulated time. It is right to note, however, that a very general impression is fixed in the popular mind that the size of the pipes will prove altogether inadequate for the demands of the district. We ourselves, at the time the advertisement for tenders was out pressed this point upon the attention of an official of the district. We ourselves, at the time the advertisement for tenders was out, pressed this point upon the attention of an official, but was assured in reply that the sizes were all that were necessary, and would be found equal to any demand upon them. Some, notwithstanding, prophecy that they will all have to be taken up in a very few years and replaced by larger. The engineers certainly ought to have had sufficient experience by this time to know what would be sufficient. We still hope, but a so fear on the subject. No connections as yet, we believe, have been made with the pipes with private property, nor will parties be in any hurry to effect such junctions unless authority brings pressure to bear upon the owners. The waterworks are likely to follow the completion of the sewage works, and will prove a great boon if properly constructed, as water is not

waterworks are likely to follow the completion of the sewage works, and will prove a great boon if properly constructed, as water is not only deficient but also of wretched quality as at present in supply. Railway projects are talked of, and, as an instance, we may mention a reported survey which is being made from Abergavenny into the Forest, by a high-level bridge over the Wye to a junction with the Forest Central line, also the Severn and Wye line, at or near Drybrook Road station. If the proposed new company would also strike across the eastern side of the Forest to a junction with the Gloucester and Hereford line, near Grange Court junction, it would prove a great boon to the foresters on the eastern side of the Forest. The reported intention of the new company in proposing a junction with the Central Forest line is to complete a connection with the new Severn bridge, now in course of construction, which undoubtedly will be an important route from Wales to the South and South East of England; but the Forest railway network will never be complete until a line is cut more direct from the Forest never be complete until a line is cut more direct from the Forest to Gloucester than any at present existing. We are thankful, how-ever, to recognise the fact that our railway facilities are greatly ever, to recognise the fact that our railway facilities are greatly improving, and we welcome the proposed introduction of all useful outlets and means of ingress, as all will tend to make the good old Forest of Dean better known and more fully appreciated. The Wye Valley Railway from Monmouth to Chepstow, some fifteen miles in length, has just been inspected and passed for traffic, and it is said that the Great Western Company, by whom it will be worked, will open it for general traffic on Nov. 1. The Severn and Wye Company, too, it is said, intend to carry their line close to the town of Cinderford. If this company would go on to Grange Court by a tunnel under Haywood and via Guns Mills and Flaxley. there would be no need for the new company to do so, as suggested above, as, under such circumstances, the proposed junction at Dryabove, as under such circumstances, the proposed junction at Drybrook Road station would fully answer the object proposed—i.e., a direct route to Gloucester, &c., without the necessity of going to Newnham, Lydney, or Mitcheldean Road, as all three routes now specified are "round about," delaying, vexatious, and expensive.

REPORT FROM DERBYSHIRE AND YORKSHIRE.

REPORT FROM DERBYSHIRE AND YORKSHIRE.

Oct. 26.—The Iron Trade of Derbyshire keeps up very well, considering the stagnation which exists in so many districts. The make of pig is satisfactory, and a good deal is being sent away to Staffordshire and other places. The foundries are kept fairly going in pipes and other castings. Bessemer rails are in steady request at the works at Dronfield, where the Messrs. Lucas have been kept well employed in malleable light castings. House coal has undergone but little change of late, the de-nand being quite of a seasonable character, e-pecially as regards London, where business has been very favourable for some time. Clay Cross has been sending forwarded from Langley Mill, Tibshelf, Eckington, and Grassmoor. Steam coal is good for the time of year, seeing that the consumption by locomotives and marine engines is not so great as during tion by locomotives and marine engines is not so great as during summer months.

the summer months.

In Sheffield there has been a marked improvement in more than one branch. The heavy armour-plate mitls are again becoming busy, whilst there is also more doing in the best qualities of table cutlery. More goods are now being sent to America than for some time past, although the trade with that country is comparatively trifling to what it has been. Ship and boiler prate are more active, and most of the Bester erestablishments are favourable off for orders. The South Yorkshire coal trade is tolerably good, although at some of the collieries the men are working but five days a week. House coal, as a rule, is easy to dispose of, but without any advance in coal, as a rule, is easy to dispose of, but without any advance in prices. A large tonnage of steam coal has been shipped at the Humber ports for the Continent, but no small portion goes from the pits in West York-hire, where the railway rate is more favourable than it is from the southern part of the West Ri ling, where the coal is this loss.

DISPUTES IN THE COAL TRADE.—At several collieries in South orkshire of late, where the use of gunpowder has been abandoned Norkshire of late, where the use of gunpowder has been abandoned in favour of wedging, disputes have taken place with respect to the wages to be paid for the latter. At Thrybergh Hall, on Tuesday, Messrs. Charlesworth, Embleton, and Kell gave their decision as to the prices to be paid, to Mr. Chappell, one of the secretaries of the Miners' Association. On its being made known the men held a meeting, when the award was discussed and disagreed with. A meeting was again held on Wednesday, with the same result.

PRESENTATION.—On Tuesday afternoon, the South Yorkshire Steam Coalowners' Association hal a meeting and dinner at the King's Head Hotel, Barnsley. After dinner, Mr. Crofts, one of the owners of the Darley Main and Pinder Oaks Collieries, was presented with a handsome silver épergne. Mr. Crofts has been the hon, sec. of the association for a long time.

NEW COAL WINNINGS IN SOUTH YORKSHIRE .- On Wednesday, New Coal Winnings in South Yorkshire.—On Wednesday, at the Barrow Hematite Company's colliery, near Barnsley, the Silkstone seam was reached in the No. 3 shaft, and was found to be of excellent quality, and fully 5 ft. thick. The No. 1 shaft has been sunk to the Swallow Wood seam, and will be continued to the Thorncliffe and Parkgate beds, so that when all the pits are in operation there will be an output of about 15:0 tons per day. The sinking of the shafts has been under the superintendence of Mr. J. G. Kell and Mr. Chapman, the underground manager, and was circled out without any accident to the sinkers or others. At two celock on Thursday morning the Burnsley bed of coal was won at the Carlton Wharncliffe Colliery, near Barnsley, the same seam having been reached in the No. 2 shaft on July 15. A good roadway was then driven, so that there was direct communication between the two shafts, and a good current of air now passes from one to the other. The pits are 14 ft. in diameter inside, being cased with metal tubbing to a depth of 139 yards, the total depth being 296 yards. The sinking has been successfully conducted by the manager, Mr. G. Jackson. When fully worked the colliery will turn out from 1000 to 1200 tons of coal daily.

Threatened Strike of Colliers.—At the Woolley Colliery,

THREATENED STRIKE OF COLLIERS. -At the Woolley Colliery, THREATENED STRIKE OF COLLIERS.—At the Woolley Colliery, is truate about four miles from Barnsley, a dispute has taken place which is likely to lead to a strike. It appears that an alteration was made in some parts of the pit by the manager, Mr. Maddison, and it was agreed that the price to be paid for getting the coal by the altered system should be referred to arbitration. Mr. G. Sidebottom and Mr. G. Parker were appointed to act on behalf of the owners, and Mr. G. Senior and Mr. J. Johnson acted for the workmen. Not agreeing, Mr. T. W. Jeffcock was agreed to as umpire. That gentleman gave his award a few days ago, fixing the analysis of the string of

paid at all the col-Signed—
Thomas Lewis,
Abraham,
Morgan,
Who were affected by it, as well as some others, held a meeting, and age
the men in the colliery should give notice. This, however, did not me
approval of those whom the award did not touch, and they refused to,
the other men then sent in their notices, which they are now works
doing all they can to stop other men from applying for their situations

REPORT FROM LANCASHIRE AND CHESHIRE.

REPORT FROM LANCASHIRE AND CHESHIRE.

Oct. 26.—There is still a perceptible check to the demand for call by reason of mildness of weather, and there has in some quarters been a consequent increase in stocks. This applies mainly, however, to inferior qualities of coal for house-fire purposes, and the remark is scarcely applicable to better sorts, for which there is a very demand. Indeed, for the best qualities there are plenty of an equiries, and very good prices—as compared with those which have recently prevailed—are obtained. In engine fuel the market quiet, and of slack, which is abundant, the sales are somewhat forced. The shipping trade is very quiet, and for export inferior qualities are almost unsaleable. In the iron trade more business is being done, and prices generally are firmer. The last rates for No. 3 Lancashire foundary iron remain at 56s. to 57s. per ton, and for No. 4 forge at about 55s. per ton. The position of the finished iron makers continues to improve, and orders are by no means difficult to obtain.

The Right H.D. R. A. Cross, M. P., is to-morrow to cut the first sof of a railway which will be of great importance to South-West.

difficult to obtain.

The Right Hon. R. A. Cross, M. P., is to-morrow to cut the first sod of a railway which will be of great importance to South-West Lancashire—the Wigan Junction Railway. The scheme, which sprojected in 1873, obtained parliamentary sanction in 1874 and 1875, and its object is to open out the south section of the Wigan coal field in the neighbourhood of Platt Bridge, Alram, Bickershaw, and West Leigh, which is of large extent and value, and is now being developed; several large collieries have been commenced on the route of the new and through them with the Midland, Manchester, Sheffield and Lincolnslire, and Great Northern systems, Wigan being at present entire out off from communication with these raiways. The main line commence by a junction with the two stations, between Warrington and Manche ter, and terminates for the present the town of Wigan. The contract has been let for the greate portion of the line that is to say, from Glazebrook Station to Ince, within a mile from Wigan; and the extension of the line into the centre of Wigan, and the excension of the line into the centre of Wigan, and the excension of the line into the centre of Wigan, and the excension of the line into the centre of Wigan, and the excension of stations there, are to be the subject of a second contract. The total length of alticular bridges, no less than four lines of public railways being crossed by the new lines of Arr. R. S. Morris has been consoliting engineer to the company; Messri, Stone, of Newton-le-Willows, are the contractors; and the works are to be under the direction of Mr. Charles H. Belco, of Liverpool, with Mr. Sacre, Stone, of Newton-le-Willows, are the contractors; and the works are to be under the direction of Mr. Charles H. Belco, of Liverpool, with Mr. Sacre, the direction of Mr. Charles J. Belco, of Liverpool, with Mr. Sacre, the direction of Mr. Charles J. A coal merchain of the district.

A coal merchant of Liverpool, named John Charles Johnson, has been committed for train on a charge of

four months of his bankrupicy. The prosecution was ordered by the Courd Binkrupicy, and it was alleged that he had ebtained by false pretenes from Mr. W. G. Marsh, a coal agent of Astley, goods to the amount of 400f., and cleques and guarantees from other parties.

At the monthly meeting of the Preston Scientific Society a lecture was delivered on the Geology of South-West Lancashire, by Mr. Charles E. De Rance, F.G.S., of her Majesty's Geological Surer, Mr. R. G. Watson presided, and briefly introduced Mr. De Rance, who, in a most able and exhaustive lecture, illustrated his remarks by a number of drawings. The most interesting portion of the lecture refered to the Wigan coal field, which, the lecturer remarked, was, perhaps, historically the most interesting in the world, from the strong probability that the Roman worked the valuable Arley Mine, cropping out in the River Douglas, near that twen, for fuel. After stating that the Wigan coal basin is not merely a specimal in a line drawn from Prescot to Burnley, was at Worthington, wherethe measure between the Ince Yard coal and the Arley Mine, the attain a thickness of nearly 300 feet, while at the southern end of the basin, on that line, the thickness between the Ince Yard coal and the Arley Mine, the attain a thickness of nearly 300 feet, while at the southern end of the basin, on that line, the thickness between the same coals is only 15 0 ft., and at the northern end only 550 ft. The structure of coa', the lecturer remarked, differed not only in different beds, but in different parts of the same bed, the variation being partly due to the nature of the different parts of the same bed, the variation being partly due to the nature of the different parts of the same bed, the variation being partly due to the nature of deficeral parts of the same bed, the variation being partly due to the nature of deficeral parts of which the coal is composed, and partly to the degree of subsequent for the same bed, the variation being partly due to the nature of the different

watersheds end off more abruptly, and overlook the drift-covered plain of Lanesie, Garstang, and Preston, a continuation of the Triassicand coal measure-diff-covered plains to the south.—After the letture several questions were asked, and abjusted to the south.—After the letture several questions were asked, and abjusted as wered, and after a vote of thanks to the Chairman the proceedings closed.

The Liverpool Geological Society held a very successful field meeting at Garswood, near Wigan, on Tues-lay. Nearly 30 members of the society, including the president, Mr. H. F. Hall, F.G.S.; the expresident, Mr. Millard Reades, C.E., F.G.S.; and the secretary, Mr. Morton, F.G.S., mustered in the railway cutting, where, under the guidance of Messrs. De Rance and Strahan, of her Majety's Geological Sure, the remarkable series of faults exhibited in the banks were examined, some of which introduce the reverse dip, known in the Wig an coal field as "Fembetts dip," being west-south-west instead of the normal Wigan dip cut-borthest, and it was pointed out that these large trough faults invariably bring in higher measures. The coal seams seen in that section were chiefly the equivalents of the Wigan Five, Four, and Nine feet mine. The party was accompanied, whilst on the railway, by two officers sent by the London and North-Western Railway to watch the traffic whilst the sections were being examined. The party the inspected the fine engines at Pewfall Colliery, and proceeded to St. Helen's where welcome dinner awaited them at the Raven Hotel, at the close of which sate of thanks was passed to the officers of the Geological Survey for their having led the excursion, after which Mr. De Rance replied, and the party returned to Liverpool.

RAILWAY PROTECTOR.—An ingenious system of automatic signal has been invented by Mr. H. Brunius, of Sweden, his object bein to prevent collision between two trains meeting or following on another by providing simultaneous signals for the station master and engine drivers. A special wire is placed along the entire in on the ordinary telegraph poles. At intervals of about I mile induced by the provided on the poles, each holding two metallic brushes, plate being provided on each locomotive for making the electric confection when the points are passed. A suitable instrument with indials is provided on the engine, one showing the number of mile run, and the other giving the signals "forward" and "atop." A electric battery at each station is in communication with the line. electric battery at each station is in communication with the wire, and with an apparatus repeating the signals made upon engine, and registering them together with the time at which t were made. The metallic plate on the locomotive coming in tact with the metallic brushes makes a signal on the engine and at the railway station simultaneously, so that when two trains are following each other too closely the signalman has only to revest the current, and at the next brush passed the signal "stop" is given on the engine. Very favourable certificates of efficiency have been given to Mr. Brunius by Mr. Goslett, the managing director of the Massio Oscarshamn Railway, and by Prof. C. Holten, of the Polytechnic College at Copenhagen, and as a working model of the wention can now be seen in London, those interested can take the opportunity of themselves determining its merits. with the metallic hrus

IMPROVED EXCAVATOR.—According to the invention of Mr. I RAMER, of the Minories, the crane consists of a pair of shears, coll structed of timber, which with their lower ends rest upon a structed of timber, which with their lower ends rest upon sering platform, and are held by their upper ends by means of a straight chain attached suitably to a strong rigid frame built upon the land or truck. The shears hold up on their upper ends a revolving get through an eye of which a strong square bar may pass up and dom receiving at the same time revolving motion. The revolving set is connected to the engine by means of a chain or wire-rope as suitable pulleys. The excavator proper consists chiefly in a straight and the same time revolving and the same time revolving motion. reed that all eet with the give notice, ng out, and

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Aggregate that million sterling in the continuous dividends for many years, amounting in the aggregate that million sterling.

Aggregate that million sterling in the continuous dividends for many years, amounting in the aggregate that million sterling in the continuous dividends of the continuous dividends of the continuous dividends of the lodes, and 300 fms. in width, affording scope for opening out a deep and extensive mine. The back (surface outerop) of one of the lodes is to be seen at about the centre of the grant, shews copper and gossan, and at no greater depth than 6 ft. below the surface, it being intersected by the well-known important great county cross-course to which is not a little to be attributed the immense accumulations of copper one the with in freat Consols United and Clifford Mines; which mines for 40 years continued to produce enormous quantities of copper ore, and any very arge dividends. Moreover, an elvan course of correspondingly crystalliation so the lode inquestion to the lodes of some of the most abundanty productive mines of the district in the same accompanies the East Tresavean love special productive mines of the distri

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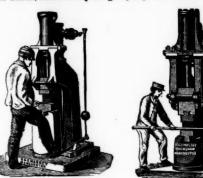
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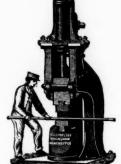
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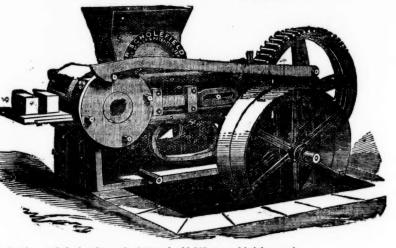
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9046 T	2 00 Ditto, 10 per cent prof 1/ oach o go	20 Patent Nut and Bolt Co. [L.]
912 West Tolgus, c, Redruth 96 10 0 59 57 59 16 15 0 1 0 0Aug. 1876 12000 West Wheal Hrances, t, Illogan 27 13 9 4½ 44½ 3 12 60 5 0Qot. 1872 12000 West Wye Valley, d, Montgomery 3 0 0 4 3½ 4½ 0 3 00 3 0May 1876 1512 Wheal Biza Consols f, St. Austell 20 0 0 - 8 9 633 10 01 10 0Aug. 1872 1024 Wheal Eliza Consols f, St. Austell 20 0 0 - 6 0 03 0 0Aug. 1872 12045 Wheal Kitty, t, St. Agnes 21 31 0 1½ 11½ 8 5 0 5 0July 1876 12 1205 Wheal Kitty, t, St. Agnes 5 4 6 3 2½ 3 11 19 6 0 2 6 0de, 1874 3 80 Wheal Owles, t, St. Just 6 86 5 0 150 140 150 522 10 04 0 0Aug. 1872 1800 Wheal Prussia, t, Reduth 20 0	64 Llandilo, s-l, bl, Flintshire 50 0 0 5000 Llanlivery Cons., t, c, ars, Llanliv. 1 0 0 1½ 1½ 5000 Llanrhaildr, L. Montzouck	100 Parkgate Iron Co. [L.]
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6000 Wheal Prussia, t, Redruth 200 - 200 - 030 0200 Dec. 1875 1 55000 Wicklow c, sul, i, Wicklow 2100 - 2175 2 52 90 026 Mar. 1872 1 10000 Wye Valley, t, Montgomery 800 0 612 67 0106 046 Oct. 1876 1 FOREIGN DIVIDEND MINES.	0000 Mellanear Copper, Hayle* 2 0 0 4 314 4 10 2 156 1½ 156 2000 Monydd Gorddu, l, Cardigan* 5 0 0 4 314 4	100 Sandwell Park Colliery Co. [L.] 100 0 0 0 100 0 0 100 0 0 100 0 0 100 0 0 100 0 0 100 0 0 100 0 0 0
88500 Alamillos, I, Spain*†	1 0 0 13414 144	20 Skerne Ironworks [L.]
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12320 Burra Burra, * c, So, Australia 5 0 0 70 0 0 0 10 0 0 10 0 0 12 20000 Cape Copper Mining, * So, Africa, 7 0 0 40 37 40 25 15 0 1 0 0 Sept. 1873 2 40000 Cedar Creek, g, California 5 0 0 42 33 55 1 0 0 Sept. 1873 2	3000 New Chiverton, 1, Perranabuloe. 6 0 0 614814 614 5000 New Consols, c, Stoke Climsland 3. 0 0 114 1 114	100 0 0
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		WAGON COMPANIES,
7887 Lusitanian, Fortugai** (£5 shares). 3 10 0 — 111 6 0 1 6 Mar. 1873 18 5000 Mammoth Copperpolis of Utah, c, s 10 0 0 — 111 6 0 1 5 Mar. 1873 18 5000 Mountain Chief, s, Utah* 10 0 0 — 0 5 0 0 5 0 0 5 0 Dec. 1872	923 Parys Mountain, *c, Anglesea \$ 0 0 \$ 3 4 \$ 3 4 \$ 000 Pate ey Bridge, ', Yorkshire \$ 0 0 \$ 3 4 \$ 3 4 \$ 3 4 \$ 3 4 \$ 3 4 \$ 3 4 \$ 3 4 \$ 3 4 \$ 3 4 \$ 3 4 \$ 3 4 \$ 3 4 \$ 3 4 \$ 3 4 \$ 3 4 \$ 3 4 \$ 3 4 \$ 3 4 \$ 3 4 \$ 3 4 \$ 3 4 \$ 3 4 \$ 3 4 \$ 3 4 \$ 3 4 \$ 3 4 \$ 3 4 \$ 3 4 \$ 3 4 \$ 3 4 \$ 3 4 \$ 3 4 \$ 3 4 \$ 3 4 \$ 3 4 \$ 3 4 \$ 3 4 \$ 3 4 \$ 3 4 \$ 3 4 \$ 3 4 \$ 3 4 \$ 3 4 \$ 3 4 \$ 3 4 \$ 3 4 \$ 3 4 \$ 3 4 \$ 3 4 \$ 3 4 \$ 3 4 \$ 3 4 \$ 3 4 \$ 3 4 \$ 3 4 \$ 3 4 \$ 3 4 \$ 3 4 \$ 3 4 \$ 3 4 \$ 3 4 \$ 3 4 \$ 3 4 \$ 3 4 \$ 3 4 \$ 3 4 \$ 3 4 \$ 3 4 \$ 3 4 \$ 3 4 \$ 3 4 \$ 3 4 \$ 3 4 \$ 3 4 \$ 3 4 \$ 3 4 \$ 3 4 \$ 3 4 \$ 3 4 \$ 3 4 \$ 3 4 \$ 3 4 \$ 3 4 \$ 3 4 \$ 3 4 \$ 3 4 \$ 3 4 \$ 3 4 \$ 3 4 \$ 3 4 \$ 3 4 \$ 3 4 \$ 3 4 \$ 3 4 \$ 3 4 \$ 3 4 \$ 3 4 \$ 3 4 \$ 3 4 \$ 3 4 \$ 3 4 \$ 3 4 \$ 3 4 \$ 3 4 \$ 3 4 \$ 3 4 \$ 3 4 \$ 3 4 \$ 3 4 \$ 3 4 \$ 3 4 \$ 3 4 \$ 3 4 \$ 3 4 \$ 3 4 \$ 3 4 \$ 3 4 \$ 3 4 \$ 3 4 \$ 3 4 \$ 3 4 \$ 3 4 \$ 3 4 \$ 3 4 \$ 3 4 \$ 3 4 \$ 3 4 \$ 3 4 \$ 3 4 \$ 3 4 \$ 3 4 \$ 3 4 \$ 3 4 \$ 3 4 \$ 3 4 \$ 3 4 \$ 3 4 \$ 3 4 \$ 3 4 \$ 3 4 \$ 3 4 \$ 3 4 \$ 3 4 \$ 3 4 \$ 3 4 \$ 3 4 \$ 3 4 \$ 3 4 \$ 3 4 \$ 3 4 \$ 3 4 \$ 3 4 \$ 3 4 \$ 3 4 \$ 3 4 \$ 3 4 \$ 3 4 \$ 3 4 \$ 3 4 \$ 3 4 \$ 3 4 \$ 3 4 \$ 3 4 \$ 3 4 \$ 3 4 \$ 3 4 \$ 3 4 \$ 3 4 \$ 3 4 \$ 3 4 \$ 3 4 \$ 3 4 \$ 3 4 \$ 3 4 \$ 3 4 \$ 3 4 \$ 3 4 \$ 3 4 \$ 3 4 \$ 3 4 \$ 3 4 \$ 3 4 \$ 3 4 \$ 3 4 \$ 3 4 \$ 3 4 \$ 3 4 \$ 3 4 \$ 3 4 \$ 3 4 \$ 3 4 \$ 3 4 \$ 3 4 \$	10 Bloom to allow 197
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		1876, — October 18, 1876,